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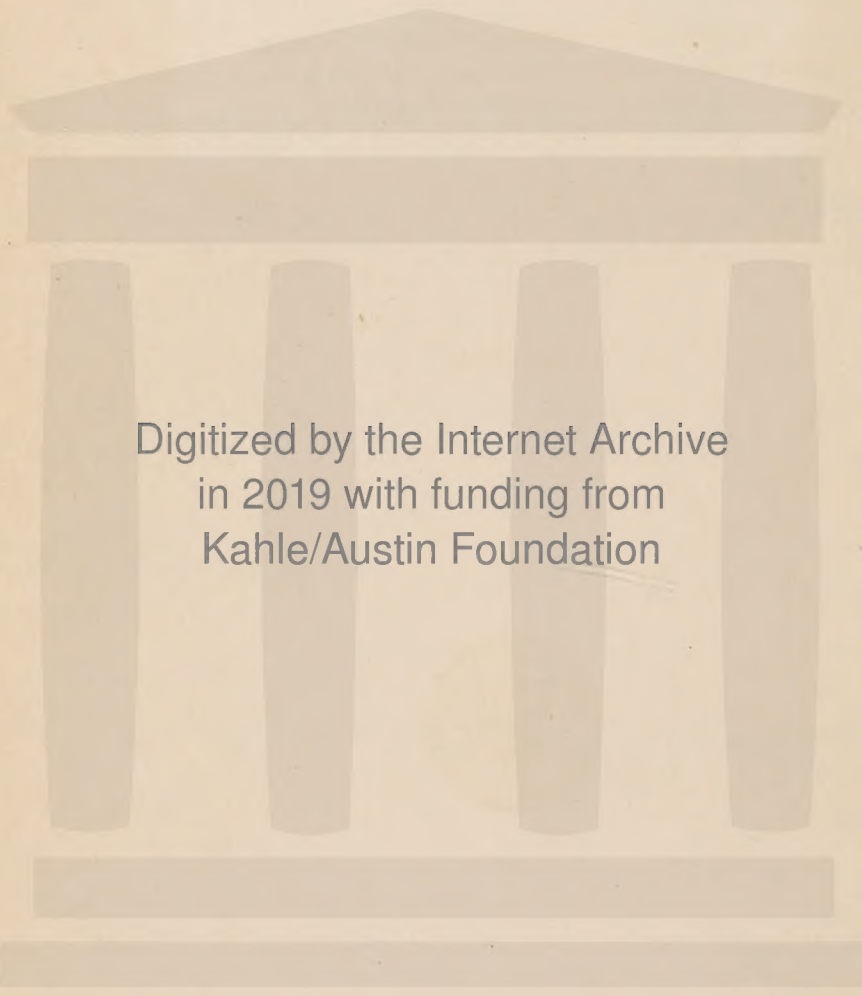
NOTICE—

As announced in the foreword to the second volume of HARVARD BUSINESS REPORTS, it has been decided that in the second and subsequent volumes, a commentary will be published with each case. Commentaries for most of the cases in Volume 1 have been included in Volume 2, where they may be found by reference to the case titles in the alphabetical list of cases.

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Sam F. Carroll

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VOLUME 1



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FOREWORD

IN this volume are published 149 cases selected from the file of business cases collected by the Harvard Graduate School of Business Administration through its Bureau of Business Research, and with the cooperation of its faculty. Each case has been judged to have significance, either as a record of current business practice or as a guide to sound business management. The decision stated in each case is that reached by the business firm; in no instance has the School or the Bureau undertaken to inject editorial opinion.

In order to avoid revealing the identities of firms which have furnished confidential data, the sources of most of the cases have been disguised by changes in names and also by modifications of statements at immaterial points. When the genuine names of firms in whose experience the cases arose are used, the firms have given specific permission to use their names. The only exception is the inclusion of published cases decided by the Supreme Court of the United States, by lower courts, or by the Federal Trade Commission.

Soon after the Harvard Graduate School of Business Administration was established in 1908, a decision was made that instruction, so far as possible, should be given by means of classroom discussion in preference to the lecture method. Inasmuch as the undertaking was novel, however, and many business men were reluctant to reveal significant facts about their affairs, progress in obtaining teaching material and in learning how to utilize it was slow. In 1920 the plans for instruction in the School entered upon a new stage, and one of the outgrowths of the new plans is the publication of this volume.

In August, 1920, the first business case book, outside the field of commercial law, was published for the use of classes in the Harvard Graduate School of Business Administration. The cases in that first volume were obtained by the instructor from his personal experience, supplemented by several cases that had been encountered incidentally by the Bureau of Business Research in its studies of operating expenses in retail and wholesale

trades. Since August, 1920, the first case book has been revised and issued in a second edition, and case books for class use in six other fields have been published by members of the teaching staff of the School.

The success of the first case book for class use was apparent so immediately that in December, 1920, the experiment was undertaken of having the Bureau of Business Research collect cases for the teachers in the School. This experiment made satisfactory progress, and the scope of the Bureau's activities in case collection was rapidly enlarged. Although more cases have been collected in some fields than in others, some teaching material of this sort has now been gathered for practically every field in which instruction is given in the Harvard Graduate School of Business Administration. In addition to the increase in the scope of this research, a continual improvement has taken place in the methods of collecting and presenting these cases. Despite the improvement that has been made, however, it still is true that a large amount of experimental and educational work remains to be done.

The regular procedure, in collecting cases for any course of instruction in the School, has been for the Bureau to obtain, from the member of the School faculty in charge of that course, suggestions regarding the points to be exemplified. These suggestions take the form of an outline, with specifications for cases which are to be collected. The facts and the decision in each case have been secured from an individual business firm by a field agent of the Bureau. In obtaining this information, the School and the Bureau have received hearty cooperation from a large number of business firms. While in numerous instances these firms have not had their problems fully crystallized, they have shown a highly gratifying readiness to aid in this undertaking, and their interest in the results of this research has been stimulating.

Although the primary object in gathering cases has been to provide material for teaching in the Harvard Graduate School of Business Administration, it is believed that the results will be useful to business men, just as the results of its studies of operating expenses in retail and wholesale trades have been made widely available for immediate, practical application in business management. Numerous requests have been received

from business men for information regarding the experience of other firms in dealing with particular problems. While the Bureau does not undertake to give advice, express opinions, or solve problems presented to it, it can make available the most significant cases that it has collected. A case which comes up in one firm commonly is analogous to the problems which other firms are facing, and the experience of one business firm, therefore, although the source is thoroughly disguised, helps to establish a precedent for the guidance of others in solving problems, analogous in principle, which arise under widely varying circumstances.

The series of cases that is being collected by the Bureau, consequently, presents a chronicle of experience which we hope can be developed to serve as a stimulus for more thoughtful business management, but it is essential to keep in mind the fact that any single case should be considered suggestive only. The inclusion of such a case in this volume carries with it no implication that the particular method of handling the problem is approved by the School, or represents the best method of solving the problem.

It is through the publication of selected cases, of which this is the first volume, that the School and the Bureau hope to make the results of this research accessible for business executives. It is the intention of the Bureau to provide careful cross-indexes of these cases in order to facilitate their use for reference purposes. The cases that are published in this volume were selected from approximately 3,500. In subsequent volumes it is planned to present cases which exemplify points not covered by this first volume, and to give supplementary illustrations of points that are exemplified here. This will aid in showing analogous and contrasting situations which may furnish suggestions to business men in dealing with current problems.

The cases that are recorded in this volume represent an attempt to chronicle business experience of value. The inadequacies in these cases emphasize the task ahead in the analysis of business problems as well as in the compilation of records of current experience, policies, and practices as a guide for the future. The theory upon which we have reached the conclusion that such material may prove of value is set forth fully in the article by Dean Wallace B. Donham, which was introductory

to the first number of the *Harvard Business Review*, published in October, 1922. That article is reproduced herewith.

ESSENTIAL GROUNDWORK FOR A BROAD EXECUTIVE THEORY

The gipsy in Asia Minor makes iron nails one at a time with a hammer on an anvil, just as his ancestors did before him for hundreds of years. I have seen him doing it; but I also observed that his small children were stark naked, and that his larger ones had only one garment In industry and commerce all things are become new.

CHARLES W. ELIOT

Unless we admit that rules of thumb, the limited experience of the executives in each individual business, and the general sentiment of the street are the sole possible guides for executive decisions of major importance, it is pertinent to inquire how the representative practices of business men generally may be made available as a broader foundation for such decisions, and how a proper theory of business is to be obtained. The theory of business, to meet the need, must develop to such a point that the executive, who will make the necessary effort, may learn effectively from the experience of others in the past what to avoid and how to act under the conditions of the present. Otherwise, business will continue unsystematic, haphazard, and for many men a pathetic gamble, with the failures of each serious business depression made up largely of the best moral risks.

No amount of theory can be a substitute for energy, enthusiasm, initiative, creative ability, and personality, nor will it take the place of technical knowledge. Now, however, all of these personal qualities may be coupled with an adequate technical equipment, and yet the executive of wide experience may fail through inability to grasp the broad underlying forces controlling business, a knowledge of which would give a sound basis for judgment. It is a serious criticism of our business structure that it so long lacked an adequate method by which these broad forces may be appraised, their probable course charted, and their applications to individual executive problems made reasonably clear.

THE IMPORTANCE OF BUSINESS PRECEDENT

The need of a better theoretical basis for executive action exists in all lines of industry. Business decisions are now governed by the precedents and practices current within each particular industry to an extent which makes these precedents almost comparable in weight with the precedents in the law. The inertia with which any large

corporation or any individually managed business opposes a departure from the habits, customary practices, and precedents of that organization is well recognized. These precedents and practices are of various types. Within each industry competent leaders study their management problems constantly and each manager creates many precedents and practices which are the basis, consciously or unconsciously, of his own decisions. Precedents of this type are limited mainly to the industry of which his concern is a part if they are not wholly personal to his company.

One of the assets which an employer always has in mind when he engages a new executive from another company in the same industry is this background of personal experience, upon which he relies for the improvements to be accomplished through the newcomer. In addition to the localized precedents within each concern there is an increasing tendency for the interchange of such precedents among competitors, and each industry as a whole thus tends to create within itself a structure of traditions which largely control the executive action taken in that industry.

BUSINESS PRECEDENTS LIMITED TO THE PARTICULAR INDUSTRY

It is still true, however, that each industrial group learns and benefits little from the experience of other groups. An international banker discussing the subject recently, referred to the fact that American business men typically know nothing of any business but their own as their most serious limitation in international competition and in their approach to current reconstruction problems. The recent economic disturbances culminating in the business depression of 1920-21 afford complete and disconcerting evidence of the wide-spread ignorance of the economic background of business in its application to particular industries and especially of the lack of any adequate concept of the relation between the business cycle and individual executive problems. The work of the Harvard Committee on Economic Research was at this time so recent that few executives knew of its existence and fewer still had confidence in its forecasts.

The big swings of business occur perhaps once in a business generation. The new generation of managers, as it approached the conditions of 1920, had great need for records in usable form of the experiences of 1893, but no such records exist. With striking exceptions in the case of individuals who had been students of economics and were able to apply their economic background to the problems faced in 1919-20, many of the most able and energetic industrial managers met with maximum difficulties during the current depression. In many cases also the more stodgily managed concerns are today in better condition than their energetic rivals.

The premium on the lack of initiative at certain stages of the business cycle can be removed only by adequate business records of widely differing types, from which may be developed theories and precedents

for use by the executive. This business generation owes it to its successors to make such records that the new generation may approach the problems of some later depression with a background of proper information. Business needs not less theory but much more.

FAILURE OF BUSINESS MEN TO BENEFIT FROM
THE WORK OF ECONOMISTS

The business cycle is perhaps more important to business men than any other phase of the economic background and economists have been for many years working on its phenomena. Notwithstanding this fact, business men were almost wholly unprepared for the depression of 1920. The difficulty is that the studies of the economist had not generally been carried far enough into the executive problems of specific industries for the executive to use the results in his own business, and much more work has yet to be done before these results will be fully available. Each executive always feels that his own business is different from others. To a certain extent he is right, for the broad economic forces affect different industries with varying intensity and at different times, but no industry is immune from the operation of these fundamentals. This feeling on the part of the executive that his business is different can be offset only by economic studies made from his standpoint, which are developed to the point where each manager may see how his business is in fact affected by these forces, and may understand the relation of his particular industry to other industries.

The business man customarily feels that economists are too theoretical and have little to offer which is of value in his business. Consequently he minimizes the importance of their work. To some extent this feeling on his part has been justified. The slender resources of the economist have been inadequate to enable him to gather the type of data most valuable to the business man,¹ and the economist's point of view is social while the business man's point of view must be primarily individualistic. This difference between the social and the individualistic interest affects even the form of the economist's work, while its substance has generally been in fields well separated from those in which the business man must find the basis for his decisions. The failure of correlation between the business man and the economist arises also from certain inherent limitations in the intellectual training of the typical business executive. Inasmuch as most of the economist's efforts deal with problems whose solutions are not directly applicable to business, the business man has usually failed to learn the language of the economist. There is a resulting lack of understanding of economic work which makes it difficult for him to appreciate its value.

Whatever the reasons for the condition, there are few connecting links between these two groups, and the work of the economist is not

¹See Bullock, "The Need of Endowment for Economic Research," *Harvard Graduates Magazine*, June, 1915.

guiding the action of business men to the extent that it should. This is true of different types of industries in different degrees. The banker, with an adequate economic training, finds the point of view of the economist close to that required for his most important executive decisions. He can, if he will, get much value for the conduct of his business out of this economic training and out of current economic thought. The banker deals with considerable groups of industries and is obliged to consider conditions which affect them all. His mental processes are less special and nearer the social point of view of the economist than is true of other business men. On the other hand, the manufacturer is rarely interested in economics except as he may be irritated by a difference of opinion on some national issue, or as he feels that they overlook the essentials of some practical operating problem, for example in labor relations. He finds little in the work of the economist which he understands and less that he can apply in his own business. The economist has not carried his work near enough to the executive problems of the manufacturer to make it readily available. So far as each manufacturer can see, his business is in fact different from others.

NEED OF STANDARDS FOR EXECUTIVE DECISIONS

Industry also needs theoretical development of another type. Every executive is today handicapped by lack of information as to the methods by which other executives solve internal executive problems similar to his own. The accountant has built up a basis for gathering facts for use as precedents and background for many decisions of this type, but almost universally accounting data are limited to one concern. Recently there have been devised a few standard accounting systems applicable to whole industries and, when comparable figures are collected through the use of such systems, the information so made possible will give an industrial rather than an individual basis for action. This movement as yet has only a start outside of railroads and public utilities, and while accounting methods remain in the present unsystematic and unstandardized condition, the opportunities for using accounting data to create standards and precedents are almost wholly limited to each particular concern.

The technical and semitechnical problems of the major industries have for many years been subjected to serious study by engineers and managers, and while revolutionary changes affecting technical methods will result from the constant advance in the sciences, this side of business management is already far more scientific than the non-technical side. The greater advance in technical theory should be credited in part to the fact that the engineer must generally leave records in a form which can be observed and used as precedents by other engineers. For example, layout problems, well solved in one plant, become with the growing conception of unity of interest within industries both valuable and available for the use of others in the

same industry. Technical development alone, however, is an unsound foundation for the successful conduct of any business, and unfortunately the well worked out analyses and solutions of non-technical executive problems are not similarly recorded. They fail, therefore, to spread from one company to another and from one industry to another, as they should. This is true notwithstanding the usefulness of information affecting industry generally or particular industries as a whole, such as trade statistics, price series, wage data, interest rates, census reports, and other data published by private and governmental agencies, which exist in considerable volume.

In a few limited fields there is already, through existing publications, an exceptional basis for executive action. Such services as *Moody's Manual* furnish standards of great importance in the fields of public utilities and railroads. Here both accounting and operating conditions are standardized and the technical and non-technical problems are similar. The student of a particular utility or railroad may, from the data recorded in such manuals and in the Interstate Commerce Commission and similar reports, form an excellent impression, easily supplemented by personal investigation on the ground, of the essential characteristics of a company investigated. On the other hand, while similar information in the industrial volumes of these manuals is significant, it is less valuable than the information about railroads or utilities. No standards either of accounting or of operating conditions exist as to these miscellaneous industries and there is infinite variety of technique. Moreover, the effect on such companies of fluctuations in commodity prices and other operating conditions is much more marked than in the case of utilities, and the intervals between periods when information is given are so long that no effective check on conditions is obtained. Most of the recent difficulties which the investment banker has met in dealing with industrial securities arise out of considerations of this nature, which affect the validity of conclusions drawn from the ordinary data.

While the exchange of experiences among different concerns, except as one hires the employee of the other or as they compete in buying and selling, is very recent in its development, the tendency in this direction is a factor of much importance for the future of business methods. Every executive must have noted the marked difference in this regard in the last 20 years. Trade secrets of a non-technical nature have ceased to exist in many well-managed plants, where 20 or 25 years ago it was difficult for the manager of a competing concern even to visit. Such interchange is today generally possible and expected. Whether this change in attitude should be attributed to the disclosure of facts brought about by income tax and similar governmental returns is for the present purpose immaterial. A revolutionary change in attitude has in fact started within the last generation. This change for obvious reasons is so far almost entirely limited to particular industries, for most of the interchange has been accomplished through trade associations and through personal contacts which are largely within each trade.

On the other hand, the amount that each industry has to learn from the practices and precedents of other industries apparently far different in character is only just coming to be realized. Trade associations and business men's organizations of various types have done something to improve conditions in this respect and organizations like the National Industrial Conference Board have made substantial beginnings in studies which are of interest to many industries. At the best these instances are exceptional. While in a few fields beginnings have been made through research, out of which much may be expected in the future, scientific standards for comparative tests of business efficiency do not now exist, and managers in one industry learn little from managers in other industries.

THE SCIENTIFIC METHOD AND BUSINESS THEORY

In substance the theoretical background for business stands today somewhat where the law in England and France stood in the period from 1200-1300. In both countries the law was local to small territorial units. This corresponds to the present condition of business precedents and practices which are local to particular industries or companies. To a considerable extent also the decisions of the courts were based upon customs and upon the memory of each judge as to his own past practices. The present scientific development of law is an outgrowth of recorded legal decisions which have since 1195 in England,¹ and approximately 1252 to 1271 in France,² formed the background for the study of legal problems.

All the pure and applied sciences of the present day have developed in the same manner. Before the scientific method came into use, the astrologer and the medicine man created fantastic hypotheses to account for the phenomena of nature. Sun, moon, and stars ceased to be the subject of absurd and fantastic notions and were recognized to be under the influence of laws controlling their ordered movements only after Copernicus, Keppler, and others conceived the idea of recording and collecting systematically over a considerable period of time the facts about their movements. It was then possible to classify these facts in series and sequences, and to develop from these records and classifications laws or theories which not only explained the present but gave a method of predicting the future.

Methods of research in science vary as widely as technique in business, but while the technique of research varies, the conception that scientific studies should be approached through the collection and classification of facts and through the development from recorded facts of generalizations and theories into which the facts fit, is the basis of all science. This method has been applied with great effectiveness to such fields as the law, which lack the exactness of natural sciences. In this respect business resembles the law more than the natural

¹Pollock and Maitland, *History of English Laws*, Vol. I, p. 169.

²*Continental Legal History Series*, Vol. I, Part III, p. 224.

sciences, and therefore the probable course for the development of theory in business is more analogous to the similar development of the law than it is to chemistry or physics. It will require, however, the applications of the same scientific method.

THE ANALOGY OF THE COMMON LAW

The earliest treatise on the English law and customs was written by Glanvill, or one of his associates who was familiar with the practices and customs of the law, before the year 1189. Glanvill himself was a judge. The writer of the treatise, whether Glanvill or his associate, relied on memory and on his knowledge of the practices of the court. Since no records of court proceedings at that time existed, his work was empirical in nature and inevitably lacked a scientific basis. To considerable extent, the writer of a business treatise finds himself today in the same position. In the absence of recorded facts in the field about which he wishes to write, he must rely upon his own memory and judgment and upon second-hand information obtained from business men as to their memory and experiences.

Curiously enough, immediately following Glanvill we find an early application of scientific method to the determination and development of legal theory. The first treatise of real importance in the English law is not Glanvill, but Bracton, written about 1250-1260. Bracton's personal history has an interesting bearing on the subject under discussion. He was first a clerk and later a justice in the Court of the King's Bench. In 1195 this court had begun to compile systematic records of its proceedings—the rolls of the court. These rolls, which are the earliest court records in European law, were not available for general study by attorneys in the modern way, but in some irregular manner Bracton appears to have obtained possession of rolls constituting the record of about 25 years of proceedings mainly before two judges (Pateshull and Raleigh) who preceded him. While he was using these rolls in work on his treatise, he appears to have fallen into disfavor and was ordered in 1258 by the authorities of the Exchequer to return the rolls to proper custody. As his treatise was incomplete, this order embarrassed him greatly, and, gathering together a group of men who could write, he had them hastily copy from the rolls some 2,500 cases which seemed to him representative of the law and therefore necessary as the basis for his book. This collection of cases in various handwritings has come down to the present time and is known as Bracton's *Notebook*. It antedates Dean Langdell's *Cases on Contracts*, the first modern collection of selected cases in the common law, by approximately six centuries. With this notebook as his material for the scientific study of decided cases Bracton worked out a treatise, which is the beginning of the modern development of the common law.

In the treatise he cites from 400 to 500 cases out of his *Notebook*,

and these citations probably constitute the first use of decided cases as precedents.¹

It is obvious from the mere statement that no systematic national law and no theoretical development of law was possible until court records were systematically kept.

When we consider that every large business finds its current decisions greatly influenced by the memory of men within the organization and by the precedents of that particular business, while it has little opportunity to benefit from the experience of other concerns in the same industry or from the practices of other industries, the close analogy of present business conditions to the early stages of the development of the law in the time of Glanvill is apparent. If progress in the development of theory in business, like that which took place in the law after Bracton, becomes possible, it will be because there has been provided a basis in recorded facts similar to the court decisions. Such facts alone can give a wider and more scientific background of experience and bring about a broader use of the precedents and practices of business as a whole.

TYPES OF RESEARCH NECESSARY FOR DEVELOPMENT OF THEORY

For such an application of the scientific method to business theory we need only to extend to their logical conclusions existing methods

¹For a general discussion of the legal history of the period, see Pollock and Maitland, *History of English Law*, Vol. I, chaps. vi and vii, and for a briefer discussion, Lee, *Historical Jurisprudence*, chap. xvi.

Lee even finds in Bracton's treatise the first statement of the doctrines of *stare decisis* under which a common law principle once decided, even though it be wrongly decided, has behind it a weight of authority which makes the court very unwilling to change its position.* It occasionally seems that this doctrine, which has differentiated the common law from the French law, has less weight in this country in recent years than formerly, particularly in some of the fields of constitutional law and federal legislation. In France, the nationalization of the law and its development out of the stage of local territorial customs had its beginning after court records were established in about 1252. The French law developed through codification, but this codification not only failed to stop the development of judge-made law, but to a controlling extent the codes themselves were based on judge-made law. Moreover, while in theory the French court is not bound by precedents, in practice the controlling character of precedents is an inevitable element in the development of even code interpretation. No judge can approach an old problem without giving weight to the conclusions he reached before and with the publication of decisions these precedents rapidly became more and more important. The judge found his labors much decreased by the precedents, while the attorney desiring to know the probable future interpretation of the code obtains his best guide from the interpretations in earlier decisions. Judge-made law, therefore, is little less important in the civil law than in the common law, although the approach in theory is different.

Professor Beale points out the fact that codification has not served to reduce the necessity for judicial decisions and that litigation on points of law under the civil code of France exceeds in amount the litigation of a similar nature under the common law in the British Islands.†

*Lee, *Historical Jurisprudence*, p. 490.

†*Selected Essays in Anglo-American Legal History*, Vol. I, p. 565.

of research. Much of the material referred to which is published by private and governmental agencies needs further study and classification, both from the economist's and from the executive's point of view, before it can be of maximum value. More has been done with this material from the social or economic point of view than from that of the executive, and before the business man can get full benefit from it the coordinations must be worked out and the results must be studied and stated in specific forms planned to help in the solution of individual business problems. But much more material than is now in existence must be collected before the desired results can be obtained with any fullness.

The creation of mass data covering a whole industry is beyond the means of any research organization which lacks the support of the taxpayer, and if this type of research were the only method of obtaining an adequate view of the activities of an industry, the expense would be prohibitive. Where mass data are not available from government sources substantially the same results can, in many cases, be obtained through the gathering of well-chosen samples—just as the industrial chemist analyzes the product of a mine by analyzing a minute fraction of the total output. If the sample is carefully chosen and fairly representative of the whole, the results are extraordinarily accurate. Much of the material entering into wage and price series published by commercial agencies is of this nature, as is also the work of the Harvard and Northwestern University Bureaus of Business Research and similar agencies in the field of distribution. In the comparatively small number of cases where such studies of samples have been made, it has been possible to establish standards of wide application. The expense of such research through samples is relatively small and the results very reliable. In one recent case where a direct comparison has been possible between a sample collected by the Harvard Bureau of Business Research and mass data gathered by the Federal Government from a whole industry, the statistical conclusions showed a variation of less than $1/10$ of 1%.

This method of research through samples should be applied very much more widely than it has been to date. Many fields of business activity which could be readily studied in this way are now in the realm of hypotheses corresponding by comparison to the fantastic hypotheses of the ancient astrologers. The present basis of bank credits may be mentioned as an example. The weight given by most banks to the arbitrary rule that the relation between current assets and current liabilities should show a ratio of \$2 of assets to \$1 of liabilities has little or no relation to the facts of business. It was applied in 1919 to credit ratios on a 40-cent cotton market and a 23-cent sugar market on much the same terms and with practically the same weight that it has been applied recently to similar concerns in a 12-cent cotton market or a 7-cent sugar market. A two-to-one ratio in the first cases was a far more dangerous condition than a one-to-one ratio on the lower price levels. To a considerable extent, this failure to relate credits to

the fundamental economic background, in such a way that the dynamic and changeable nature of sound credit standards may be realized, is responsible for business failures resulting from the severe swings of the business cycle. It is responsible also for the recent discovery of many bankers that, in severe depressions, liquid assets are the assets which disappear first. It should be readily possible through research to build up a proper relative basis for credits which would take into account at various stages of the business cycle the importance of commodities, and commodity price levels, as elements in credit risk. Such a basis would vary from industry to industry. This is one example of a promising field of research which might be approached through the gathering of sample data.

Research through samples of this nature would, if broadly conducted, give an excellent basis for the interchange of experience across the industries. We have recently found that studies made in the marketing problems of the jewelry industry give a valuable background for the consideration of widely different marketing problems, such as the distribution of heating supplies.

Both mass data and sample data of this nature deal mainly with problems of the executive affected by facts and powers outside of his own control and to a large extent outside of his own business. In addition to this type the executive needs assistance through research in the solution of his daily internal operating problems which may or may not be directly related to the general economic background or to the industry as a whole. There is now practically no way that the executive may get such assistance except as he acts on the precedents and practices of his own organization, or hires new members of his organization from competitors.

The case system of teaching business in the Harvard Business School has thrown some interesting sidelights on this need. Adopting the general principle of Langdell's case system, by which most of the law schools of the country teach law, we have developed on a large scale similar methods of teaching business, and a constantly increasing percentage of the work of this School is conducted upon a true case system.¹ The student obtains his business training by solving executive problems, which actually have occurred in business, so presented that he deals with conditions similar to those which confronted the executives. This method of teaching business from cases, a logical development of the earlier problem method of instruction, has largely revolutionized the classroom work in the School and improved the quality of instruction. For teaching reasons the business situations or cases used for this purpose have usually not included the solutions which were reached by the business men.

The point of view of the teacher is essentially different from that

¹The business case is, of course, not generally a litigious situation but rather a practical set of facts out of which arises a problem or problems for determination by the man in business. See "Business Teaching by the Case System," *American Economic Review*, Vol. XII, No. 1, March, 1922.

of the business man. While the teacher desires to have the solutions for his own guidance, he prefers that they should not be disclosed to the student until the student has thought the problems out. When one solution of a particular business problem is printed in a case book, this solution tends to have the overweight of authority which goes with the fact that it alone is printed, although the conclusion actually reached is often not the best possible solution. Where also only one course of action is set forth, there are inadequate comparative bases for analysis to determine the deficiencies and the strong points of this decision. These reasons which have led us to the present technique of presenting cases to the classroom under which conclusions are generally omitted, limit the use of case books for business men. The executive finds that other people have faced problems like his own, but he gets no light from their experience.

There is an insistent demand from executives, therefore, for the publication of solutions to these cases. Moreover, if the present use of such cases for training junior executives within various industries continues, the solutions worked out in practice should be made available to the senior executives who lead the discussions. Indeed, an adequate development of the case system for teaching in business schools will be possible only if the teacher has not one alone but several solutions for the important problems contained in the case book. Under these conditions he will be able to use these several solutions as a basis for comparative discussion of the business theory involved.

While the cases in our present case books have a value as teaching material in advance of anything which we have been able to supply through lectures or texts of the ordinary sort, there is need of further developments in the technique of presenting business situations. For this purpose case books like text-books should be built on precedents, including the solutions. We now ignore the solutions in compiling the books. The full scientific approach to the teaching and development of theory through cases will not be realized until the instructor has the recorded facts of business for use, not only to show how the problems in business arise, but how they have been handled by different executives. He needs also some idea, wherever possible, of the success or failure of the method adopted. Isolated business cases have been published with their solutions in various places, but the number of such cases which have been worked out with the detail necessary, if they are to be useful for solving executive problems arising in the future, is lamentably small compared with the field to be covered. Both the case system for its proper development and business itself need something like the court reporter who systematically reports numerous cases for current publication.

As is well known, law cases are reported as they occur, with no effort at anything but a chronological arrangement. The ability to coordinate new cases with cases decided in the past and to fit the conclusions of the court into legal theory is gained through elaborate

indexes and digests. Something corresponding to these court reports and their digests is needed in business so that we may build up, as time goes on, a volume of recorded precedents which may be subjected to critical analysis and classification. The publication of such cases is an easy and inevitable development of the research which is the basis of the case system as we are now using it. We have, therefore, in preparation a volume which is intended to be the first of a series designed to help in the accomplishment of such a result.¹

The plans for this publication include the adequate indexing of these reports, so that the executive who wishes to know how different concerns have handled a particular problem perhaps at various stages of a business cycle may, as time goes on, study precedents not only in his own industry, but in other industries where similar problems occur. We shall include the same problem under differing conditions where a variety of solutions have been worked out by different concerns. As this series of business reports is published from year to year we hope it may be one of the agencies which will give business managers an opportunity to make better use of business data, to base their current executive action on broader precedents than those within their own concerns and to choose from among several solutions of the same problem solutions which, properly modified, may be the best for use under their own conditions. In a few fields where we have already collected several different solutions to the same problem, we see the practical value of the variety of answers. The ability to analyze these solutions comparatively enables an executive to reach a sane conclusion with far less time and far greater assurance than would otherwise be possible.

May not this and similar research agencies and records be the basis for a development of theory in business problems somewhat as the rolls of the court and Bracton's *Notebook* formed a basis for the development of early theory in the common law?

There are now at work a number of research agencies, all of which will add to the mass of facts upon which alone business theory can properly develop. In the use of their results the broad fundamentals of the scientific method should be kept in mind. The task of developing business theory scientifically is, first, the recording of facts; second, the arrangement of these facts into series and relationships; third, the development of generalizations which can be safely made only upon the basis of such recorded facts. Except in so far as this method is applied consciously on a large scale, the generalizations of business will be largely hypotheses more or less fantastic in their nature, and the executive must often gamble with his most important problems.

¹These volumes will be published from time to time under the name of *Harvard Business Reports*.

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HARVARD BUSINESS REPORTS

VOLUME I

HARVARD BUSINESS REPORTS

I. JAMESVILLE GAS & ELECTRIC COMPANY¹

CAPITAL ASSETS. This public utility company annually purchased capital assets for extensions and replacements, valued at from \$8,000,000 to \$12,000,000.

BUDGET—DEPARTMENTAL ESTIMATES. Estimates of departmental expenditures were submitted before the first of each year and, if approved by the president, were combined into a company budget.

BUDGET CONTROL—STATISTICAL DEPARTMENT. Expenditures under the budget were authorized monthly, but departmental commitments often exceeded the allowances. The president selected the statistical department to establish strict control of budgeted expenditures, and decided that each step in the purchase of capital assets must have specific approval by the president.²

(1923)

The Jamesville Gas & Electric Company furnished gas and electricity for power, heat, and illumination in an industrial community where there was continual growth in the number of private and commercial consumers. The increasing demand for the company's products required constant additions to plant facilities, such as generating stations, warehouses, extensions of pipes for conducting gas, and new lines of overhead and underground wires for electricity. The company's annual need for additional capital amounted to between \$8,000,000 and \$12,000,000.

Expenditures for these assets were made according to a budget formulated at the beginning of each year and approved by the president. There was no accurate check upon actual payments, however, and the president learned that several departments habitually made commitments in excess of the budget allowances, with the result that it frequently was difficult for the treasurer to obtain the necessary funds. This circumstance caused the presi-

¹Fictitious name used for purpose of disguise.

²See also Hudson Telephone Company, p. 14; General Motors Corporation, p. 21.

HARVARD BUSINESS REPORTS

JAMESVILLE GAS & ELECTRIC COMPANY

Suggested Item to Be Considered for the 19.... Company Budget

Submitted by the.....Department. Serial No.....

To the President:

I suggest that the following item be considered by you in connection with 19.... Company Budget, the work to cost approximately \$.....and be completed not later than.....19....

 Work Called for and Reason Why It Is Needed

 Date.....19....Head of Department

The Division Head who suggested the above item to me is Mr.....

 Superintendent of Statistical Department

You are requested to have a careful estimate of the cost of work called for above submitted to me.

Date.....19....President
 (Detachable)

Mr.....

You are requested by the President to have the cost of the work described in your Department Serial No.....submitted to you by the Construction Department and furnished to this Department on Form 2.

Superintendent of Statistical Department

Date.....19....By.....

dent to seek some means of enforcing a more strict observance of the budget allowances.

There were two departments which made purchases. One, the purchasing department, bought all materials and supplies for current consumption. The other, the operating department, decided upon the construction of new plants and buildings and the purchases of equipment which became permanent assets. There also was a construction department, consisting of engineers who specified all requirements for stations and street engineering projects, and supervised the erection of buildings and the installation of equipment. All construction was requested for some division of the operating department and carried out under the supervision of the construction department.

At the beginning of each year, heads of the divisions in the operating department made application to the president for appropriations to cover all new construction anticipated during the year. The president approved, canceled, or modified those re-

JAMESVILLE GAS & ELECTRIC COMPANY	
Specific Item	
Submitted by the.....	Department. Serial No.....
Desired date of completion of the work.....19....	
To the President:	
The following Item of construction work and the estimated cost is herewith submitted for the 19.....Company Budget.	
Description	
Account No.....	Estimated Cost \$.....
Account No.....	Estimated Cost
Total \$.....	
This work can be completed on.....19....	
Replacement Memoranda	
Account No.....	Estimated Cost \$.....
Account No.....	Estimated Cost
Total \$.....	
Remarks:	
Above schedule of estimated time and cost approved.....Head of Construction Department	
Date.....19....	Approved.....Head of Department
Date.....19....	Approved for 19....Company Budget....President

Form 2: Details of work to be included in budget

quests, which then were incorporated into a construction budget covering all branches of the organization. At the first of each month, the president released by letter a definite amount of the various appropriations for use during that month. The amount was governed by the availability of funds and the urgency and purpose of the work to be undertaken.

The amounts of appropriations and of monthly releases under the appropriations were communicated to the departments in the form of an interdepartmental letter, a duplicate of which was retained in the president's office. The managers of the construction and operating departments were usually more interested in the completion of construction that they deemed necessary than in the observance of financial restrictions.

Payments were made by the treasurer on the authority of the president's monthly letters, but no cumulative record was kept of the forward contracts closed by the operating department. Expenditures, furthermore, were checked by the auditing department only after payment had been made.

The president first analyzed the administrative factors in budget control. Responsibility could be assigned to the operating, auditing, or statistical departments. The operating department was organized primarily to carry out the construction plans, and was likely to be influenced by temporary needs. The audit-

(For Statistical Department's Record)

Appropriation certificates issued to the Construction Department as follows:

Appropriation No.	Estimated Cost	Account No.	Date Issued

Form 3: Record of appropriation certificates on reverse side of Form 2

ing department was concerned with examining actual expenditures, and, therefore, was not in position to confer effectively with the operating department in regard to the placing of orders and contracts for new plant equipment.

The statistical department, on the other hand, already had been given the task of tabulating the yearly budgets. That department was not involved directly either in actual construction work or in payments of contracts. The president decided, therefore, that accurate control probably could be established and maintained to best advantage by the statistical department, and he instructed the chief statistician to submit a plan to control the use of budget appropriations.

The chief statistician submitted a set of records, Forms 1 to 8, designed to provide an adequate check on capital expenditures. His intention was that each step in the purchase of capital assets should require specific approval by the president, and that the statistical department should control the routing of the forms. This provided opportunity for the accumulation of statistical data and constant comparisons with the annual budget. The instructions for using the system of forms were as follow:

Form 1 was intended to cover all suggested items for additions to the company's plant submitted by the various department heads to the president for his approval. Four copies were to be made: the original should be forwarded to the president, one copy

JAMESVILLE GAS & ELECTRIC COMPANY

Budget Approval Notice

To.....

Authority has been received from the President to include the item described in your Department Serial No.....in the 19....Company Budget.

Superintendent of the Statistical Department

Dated.....19....

By.....

to the construction department, one copy to the department interested, and one copy retained by the originating department. The approximate costs submitted on Form 1 were to be furnished by the department head originating them. Information for rough estimates of the cost of the work could be secured from other departments provided those departments were not put to appreciable labor or expense in connection with furnishing the information. Form 1 was the basis of the annual budget.

JAMESVILLE GAS & ELECTRIC COMPANY

Request for an Appropriation Certificate

To the President:

Will you please authorize the issuing of an appropriation certificate to the Construction Department for \$. covering the item -in full described
-in part
in Department Serial No. Total estimated cost of item \$.

Previous approvals as follows:

Appropriation No.	Dated	Amount

Date. 19. Head of Department

Authority to Issue Appropriation Certificate

To the Superintendent of the Statistical Department:
You are authorized to issue an appropriation certificate to the Construction Department in accordance with the above request for amount asked for.

Date. 19. President

On receipt of the perforated stub attached to Form 1 from the statistical department, the department head interested was to consult with the construction department and ascertain if the cost of the work proposed could be figured as a whole at that time or whether it was necessary to have the cost of the work estimated in part. If the cost of the work must be figured in part, that portion of the work to be done during the current year was to be outlined by the construction department and a description furnished to the department interested; the latter department

JAMESVILLE GAS & ELECTRIC COMPANY

Superintendent of Construction Department:

You are hereby advised that the expenditure authorized by this certificate may be made in connection with the construction work called for in.....Department

Serial No.....

Account No.....

Appropriation Record Book No.... The work to be completed on.....19...

Schedule of Construction Work

Estimated Cost.....

Replacement Memo

(To be filled out in all cases when property is to be replaced or discontinued)

Gross Replacement.....

Credits.....

Net Replacement*.....

Appropriation No..... Superintendent of Statistical Department
Date issue.....19.... By.....

ment then would make out Form 2, using the description of the specific items as furnished by the construction department.

Form 2 was to be used for specific items, four copies to be made out and forwarded to the construction department for entry of the estimated cost of the work, estimated replacement, and date upon which work could be completed. If the construction department was asked to estimate on a part of the cost of a project, it should fill out on Form 2 under "remarks" information as follows: "The above described work is the 192... portion of the work called for.....by.....Department Serial Number..... To complete the work called for therein will in our opinion cost approximately \$. in addition to the amount above itemized."

The construction department was to retain one copy for its file, returning the original and two copies to the originating department which then would forward the original to the president, one copy to the department interested, and would retain one copy for its file. If Form 2 were approved by the president, he was to forward it to the statistical department, where it should become a part of the company budget. On Form 3, the reverse side of Form 2, the statistical department would record informa-

JAMESVILLE GAS & ELECTRIC COMPANY

Memorandum of Appropriation Certificate Issued

To.....

An appropriation certificate has been issued as follows to the Construction Department covering the item - in full described in your Department - in part

Serial No.....

Appropriation Number	Estimated Cost	Account No.	Date Issued
.....
.....
.....
.....
.....
.....

Superintendent of Statistical Department

By.....

Form 7: Memorandum of appropriation certificate issued

tion concerning the appropriations when they should be issued.

The statistical department then would make out three copies of Form 4, "budget approval notice," retaining the original for its file and sending copies to the construction department and the department interested.

It was understood at this point that the president had not committed the company to any expenditure of money. When the department interested desired to proceed with the work, it had to make out a "request for an appropriation certificate," using Form 5. The departments were to consult with the construction department regarding the amounts to be requested from time to time in order that the "appropriation certificate" might not be asked for prior to the time it was needed.

Three copies of Form 5 were to be made out, the original to be forwarded to the president, a copy to the construction department, and one copy retained by the department interested. Upon receipt of the president's approval, the statistical department would issue the necessary appropriation certificate, Form 6, and forward it to the construction department.

The statistical department was to make out also two copies of the "memorandum of appropriation certificate issued," Form 7, forwarding the original to the department interested and retaining one copy for its files.

When a department wished to cancel either Form 1 or Form 2,

JAMESVILLE GAS & ELECTRIC COMPANY

Cancelation Notice

To the Superintendent of Statistical Department:

Will you please cancel.....Department Serial No.....for the following reasons:

Date.....19.....

.....Head of Department

Date.....19.....

.....President

Form 8: Cancelation notice

it would have to make three copies of "cancellation notice," Form 8, sending all three copies to the president. The president would sign the original and forward the three copies to the statistical department, which was to retain one copy for its file, forward one copy to the construction department, and one to the department originating the cancellation.

If the president desired to cancel Form 1 or 2 after it had been submitted to him, he could cause to be issued three copies of Form 8. He was to sign the original and forward the three

<i>Appropriation No.</i>	FINAL STATEMENT ON APPROPRIATION
<i>Amount \$</i>	Original Amount \$
<i>Opened</i>	Additions (a)
Purchasing Agent	(b)
<i>Recorded</i>	(c)
Auditor	_____
(Closing Record)	Total Appropriation
To Purchasing Agent:	Est'd Cost of Orders \$
Final acknowledgments have been	Amount Not Ordered \$
placed on this appropriation	Actual Cost \$
.....	Actual Saving \$
.....	_____
.....	Replacement Statement
_____	Original Estimate \$
To Auditor:	Additions or Deductions (a)
Appropriation closed .....192..	(b)
Purchasing Agent	(c)
_____	\$
Final charges entered .....192..	
Total Cost \$.....	DR.
(See saving opposite)	J.E.Transfer \$
Transferred to Investments .....192..	Requisitions
Auditor	\$
	CR.
	Salvage and Other Credits \$.....
	Net Charge \$
	Actual Saving \$

	Approved

	President and General Manager

Form 9: Final statement on appropriation, on reverse side of Form 6

JAMESVILLE GAS & ELECTRIC COMPANY			
To the		Bureau	
The actual ^{cost} replacement called for on Appropriation Certificate No has exceeded the original estimate by more than ten (10) per cent as follows:			
Estimated Cost	\$.....	Actual Cost	\$..... Excess \$.....
Estimated Replacement	\$.....	Actual Replacement	\$..... Excess \$.....
			Auditor
			By
<hr/> <p>To the President:</p> <p>The explanation of the above excess ^{cost} replacement is as follows:</p> <hr/>			
Date.....19.....		Superintendent of Department	

Form 10: Explanation of excess cost

copies to the statistical department, which would retain one copy for its file, forward one copy to the construction department, and one to the originating department.

When the total costs or replacement charges as determined by the auditing department did not exceed the appropriation estimate by more than 10%, the auditing department was authorized to close the "final statement on appropriation," Form 9, and submit it to the president for approval.

In cases where the cost of replacement charges exceeded the original estimate by more than 10%, the auditing department was to submit an explanation on Form 10 in triplicate, sending all three copies to the interested department, which should furnish an explanation for the excess cost or replacement, returning the original to the auditing department, sending one copy to the construction department, and retaining one copy for its files. The auditing department would attach the original of Form 10 to the appropriation certificate when it was forwarded to the president for final approval. In cases where an appropriation certificate had been issued but the work called for was not undertaken, the appropriation certificate should be closed without cost.

The president authorized the installation of the plan and announced that where the signature of a department head was required, it must be made by the department head or his assistant. When the plan was adopted, it proved to be an effective means of controlling capital expenditures.

2. HUDSON TELEPHONE COMPANY¹

BUDGET TO CONTROL DEPARTMENTAL EXPENSES. Through monthly reports, the company, prior to 1921, controlled the general departments' expenses. In order to secure more effective control, the company decided to budget these expenses on a monthly basis, although the plan required increased clerical work, and monthly variations were likely to make exceptions necessary.

DEPARTMENT HEADS. Each department head was to submit for approval, at the close of the year, an expense budget for the following year, divided according to the main classes of work and accompanied by an explanation of the important changes.²

(1921)

Prior to 1921, the Hudson Telephone Company used a system of monthly reports of actual expenses of its general departments. When the expenses of any department increased too rapidly, a conference was held to determine the cause, and whether or not the increased rate of expenditure was justified and should be permitted to continue. Since the expenses of the different departments had not been disproportionate, this method had been reasonably satisfactory. One of the vice-presidents was of the opinion, however, that the company could secure more effective control by budgeting expenses, and directed the controller's department to develop a system for budgetary control of expenses.

Under the plan suggested, the controller's department would require the department heads, shortly before the close of each year, to submit for executive approval a budget of their proposed expenses for the ensuing year, subdivided according to the main classes of work and supported by an explanation of the more important increases or decreases over the expenses of the

¹Fictitious name used for purpose of disguise.

²See also Jamesville Gas & Electric Company, p. 3; General Motors Corporation, p. 21.

current year. Subdepartmental budgets only would be prepared for those departments which were divided into two or more parts. The controller's department would summarize these budgets and submit the company totals to the executives for approval, together with specific related data, which would compare increases in the budget with expected increases in revenues, and show the number of company stations. After the budget was approved, the controller's department would notify the several department heads.

The expenditures of each department or subdepartment were to be divided into as many classifications as were necessary to present separately each of the important classes of expense. The controller's department would assign to each of these departmental subclassifications a subaccount to indicate to which class and department or subdepartment the expense belonged. It also would give a code letter to each department or subdepartment. Expenses would be designated on pay-rolls, and sundry disbursement and other reports, by the departmental code letter and the line number of the departmental report form upon which the expenses ultimately would be reported. Items thus marked were to be coded under the proper subaccount in the controller's department; the object of the preliminary classification by code letter and line number was to simplify the work of the department in which the expense was incurred.

The approved budgets should be filed in the controller's department. Monthly reports would be prepared for each department on Form 11. Expenditures would be subdivided according to the principal administrative departmental subdivisions and subaccounts. The reports were designed to show expenses for the current month, the increase over the preceding month, the total for the elapsed months of the year, and the comparison of the latter amount with the prorata budget for the same period; namely, the proportion of the total budget for the year that the number of elapsed months was of the total months in the year.

Reports containing similar information, but not subdivided according to departmental subdivisions, should be prepared for those departments and subdepartments which did not divide their activities among administrative subdivisions. These reports were to be compiled on sheets similar to Form 12.

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These reports also would include a line on which the departmental budget totals for the year should appear, and a section divided according to permanent and temporary employees. This was to show the number of employees at the end of the current month, the increase or decrease over the preceding month, the change from the same month of the preceding year, the monthly total of salaries and wages payable to employees in service as of the close of the preceding month, changes in the amount which had occurred during the current month subdivided according to

HUDSON TELEPHONE COMPANY General Department Expense for Month of.....									
LEGAL DEPARTMENT									
ITEMS		GENERAL (G)		TAX (T)		PATENT (P)		TOTAL	
		This Month	Increase over Last Month	This Month	Increase over Last Month	This Month	Increase over Last Month	This Month	Increase over Last Month
1	Salaries								
2	Traveling								
3	Rent and House Service								
4	Post., Ptg., and Staty.								
5	Telegrams and Express								
6	Telephone Service								
7	Furn. Exp. (inc. Depr.)								
8	Periodicals and Books								
9	Special Services								
10	Conferences								
11	Attys. Fees and Costs								
12	Patents								
13	Miscellaneous								
14									
15									
16									
17	Total								
ITEMS		GENERAL (G)		TAX (T)		PATENT (P)		TOTAL	
		Mos. This Year	Actual Less Than Budget Same Period	Mos. This Year	Actual Less Than Budget Same Period	Mos. This Year	Actual Less Than Budget Same Period	Mos. This Year	Actual Less Than Budget Same Period
18	Salaries								
19	Traveling								
20	Rent and House Service								
21	Post., Ptg., and Staty.								
22	Telegrams and Express								
23	Telephone Service								
24	Furn. Exp. (inc. Depr.)								
25	Periodicals and Books								
26	Special Services								
27	Conferences								
28	Attys. Fees and Costs								
29	Patents								
30	Miscellaneous								
31									
32									
33									
34	Total								
35	Budget for Year	\$		\$		\$		\$	
EMPLOYEES*		Number of Employees			Monthly Amount at End of Last Month	Changes in Amt.		Monthly Amount at End of This Month	
		End of This Month	Increase over Last Month	Increase over Same Month Last Year		In the Force	in Rate of Pay		
36	Regular Employees: General								
37	Tax								
38	Patent								
39	Total								
40	Temporary Employees								
*Employees receiving benefits under the Employees' Benefit Plan (if any) included at their regular rates of pay.									
Date issued.....									
Controller									

Form 11: Monthly comparisons of actual and budgeted general expenses of department having subdivisions

changes in the force and changes in rates of pay, and the monthly amount payable to employees in service as of the close of the current month.

In addition to the separate departmental reports, the controller's department would prepare for the entire company a report on a sheet similar to that shown as Form 13. This report was to indicate separately for each subaccount, without departmental subdivision, the expense of the current month, increases over the previous month, the total for the elapsed portion of the year, and the comparison of the latter amount with the prorata budget of the current year and with the actual expense of the same period of the preceding year. The controller's department would combine the amounts reported under subaccounts, such as salaries, which were common to two or more departments. This report

HUDSON TELEPHONE COMPANY
General Department Expense for Month of:

GENERAL ADMINISTRATION-ADMINISTRATION (Z)

ITEMS		This Month			Increase over Last Month		.... Mos. This Year		Actual Less Than Budget Same Period	
1	Salaries.....									
2	Traveling.....									
3	Rent and House Service.....									
4	Postage, Printing, and Stationery.....									
5	Telegrams and Express.....									
6	Telephone Service.....									
7	Furniture Expense (includes Depr.).....									
8	Periodicals and Books.....									
9	Special Services.....									
10	Conferences.....									
11	Directors' Fees.....									
12	Subscriptions.....									
13	Educational and Publicity.....									
14	Auditors' Fees.....									
15	Annual Reports (includes Advertg.).....									
16	Miscellaneous.....									
17										
18										
19										
20	Total.....									
21	Budget for Year..... \$									

EMPLOYEES*	Number of Employees			Monthly Amount at End of Last Month	Changes in Amt.		Monthly Amount at End of This Month
	End of This Month	Increase over Last Month	Increase over Same Month Last Year		In the Force	In Rate of Pay	
22	Regular Employees.....						
23	Temporary Employees.....						

*Employees receiving benefits under the Employees' Benefit Plan (if any) included at their regular rates of pay.

Date issued.....

Controller

Form 12: Monthly comparison of actual and budgeted general expenses of department without subdivisions

would include, in addition to the combined information on the individual departmental reports, items of expense such as taxes and building repairs, which were not apportioned among the several departments. No information about employees was to be included in this report.

The total salaries, total expenses other than salaries, and the combined total for every department and for the important administrative subdivisions also were to be tabulated monthly on the schedule shown as Form 14. Under each major column head-

HUDSON TELEPHONE COMPANY

General Department Expense Report for Month of

	EXPENSES CLASSIFIED	This Month	Increase over Last Month	.....Mos. This Year	Actual Less Than Pro-rata Budget Same Period	Increase over Same Period Last Year
1	Salaries					
2	Traveling					
3	Rent and House Service					
4	Postage, Printing, and Stationery					
5	Telegrams and Express					
6	Telephone Service					
7	Furniture Repairs					
8	Depreciation on Furniture and Fixtures					
9	Periodicals and Books					
10	Special Services					
11	Conference					
12	Directors' Fees					
13	Subscriptions					
14	Attorneys' Fees and Costs					
15	Financial Agents' and Bond Trustees' Chgs.					
16	Insurance Premiums					
17	Stock Appraisals					
18	Press Clippings					
19	Experimental					
20	Engineers' Materials					
21	Auditors' Fees					
22	Patents					
23	Advertising (includ'g Education and Publicity)					
24	Annual Reports (including Advertising)					
25	Interest on Employees' Benefit Fund					
26	Other Benefit Payments					
27	Medical Fees and Expenses					
28	Maintenance of Employees' Benefit Fund					
29	Loud Speaker Demonstrations					
30	Miscellaneous					
31	Repairs to Instruments					
32	Depreciation on Instruments					
33	Taxes on Instruments					
34	Taxes on Franchise					
35	Taxes on Real Estate					
36	Federal Taxes					
37	Other Taxes					
38	Motor Truck Expense					
39	Bldg. Repairs, Depreciation, and Insurance					
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						
52						
53						
	Total					

Date issued

Controller

Form 13: Monthly comparison of actual and budgeted general expenses, all departments

ing were to be listed opposite each account the amount for the current month, the increase over the preceding month, the total for the elapsed portion of the year, and a comparison of the latter with the prorata budget for the same period. This report also included a column for the budget total for the year and columns in which would appear the number of permanent employees at the end of the current month, the increase over the preceding month, and the increase over the same month of the preceding year. The items which were not apportioned to the departments would be given at the bottom of the report following the departmental information; the totals of the various columns would reflect the results for the entire company.

The plan was to be applied to all classes of expenses. A form similar to Form 11 was to be used for all departments or subdepartments which divided their activities among several subdivisions. Form 12 should be employed when such subdivisions were not made. Form 13 was designed to report total expenses of the company by subaccounts without departmental subdivisions.

The general and staff activities of the company were divided among the following departments: general administration, development and research, operation and engineering, controller's, treasurer's, secretary's, legal, and information.

The general administration department had two subdepartments: administration and general service. Form 12 would be employed for administration, and a similar form for general service. A form of the same type was prepared for the expenses of the development and research department. A form similar to Form 11, divided for administration, operation, traffic engineering, plant engineering, commercial engineering, office management, and undistributed expense, was to be used for the department of operation and engineering, a subdepartment of the operation department.

The general department, a subdivision of the department of operation, was divided into administration, supply, and special, and would use a sheet similar to Form 11. The expenses of the personnel division, another subdepartment of the department of operations, were subdivided further among administration, personnel, and special training. The benefit and medical subdivision

of the department of operation was not subdivided and would employ a form similar to Form 12.

The controller's, information, and secretary's departments also were not subdivided. The expenses of the treasurer's department were subdivided among administration, financial, and stock, and the expenses of the legal department among general, tax, and patent.

As indicated by the forms, the budgeting of expenses was to be extended to nearly every account on the books. To make an estimate for the succeeding year, it was necessary to inspect the past year's expenses in each of these details. This would require time which otherwise might be used for routine work. The preparation of the budget, on the other hand, would compel the department heads to analyze their expenses. This analysis was expected to result in more careful departmental supervision of expenses with subsequent economies.

General administration expenses, however, were deemed to be uncontrollable. If it should be necessary to defend a suit, for example, expenses would rise irrespective of the budget estimate. The number of employees required in the general administration departments was comparatively constant. The largest expense item in these departments was salaries, which were established for the year and except for the addition of new employees did not vary. In the absence of a change in policy, therefore, expenses in those departments must remain at a more or less constant figure.

Those opposed to budgetary control stated that, if at the end of the year it seemed advisable to reduce expenses in the succeeding year, the company could notify each department head, without resorting to such a detailed system, that expenses should be reduced a specified percentage of the current year's expenditures. Departments in which special conditions existed were to be excepted. The opponents contended, furthermore, that a budget was of little significance, unless it was possible to compare current actual performance with the forecast. The budget plan suggested provided only for a monthly comparison between actual performance and that proportion of the year's budgeted expenses that the number of elapsed months bore to the 12 months of the year.

It did not seem advisable, furthermore, to allow for monthly

variations because it was impossible to forecast in which month such variations would occur. Although a department might know in advance that it would be necessary to obtain additional employees, that an experiment was to be conducted, or that a plan was to be instituted which would require increased expenditures, it could not forecast the exact month in which these events were likely to occur. The major value of a budget, therefore, would be lost, since the provided comparisons could not be taken as exact. Although divergences from the budget were to be temporary, the executives could not determine the allowance which should be made for them.

The company adopted the budget plan as suggested by the controller's department, however, because the benefits to be gained outweighed the disadvantages. The department heads' analyses of expenses were likely to result in an attempt to keep actual expenses within the estimates. The reports were sufficiently detailed so that the source of any deviation of actual expenses from the budget would be revealed and explained readily. Although this plan might not be advisable in a smaller company, the magnitude of the Hudson Telephone Company's activities justified the expense involved, since the outlay was relatively small in comparison with the expected economies.

3. GENERAL MOTORS CORPORATION

INVENTORY LOSSES. During the expansion of the General Motors Corporation from 1918 to 1922, the organization of the company was highly decentralized. Lack of sufficient administrative control was shown in 1920 by disregard of the recommendations of the executive and finance committees. Heavy inventory losses resulted.

INVENTORY CONTROL. The company decided to install a complete system of inventory control to prevent recurrence of the losses sustained in 1920.¹
(1922)

The General Motors Corporation was formed in 1908 to act as a holding company for the stock of several automobile manufacturing companies. In 1916 the corporation was reorganized and assumed the functions of directing the management of the

¹See also Jamesville Gas & Electric Company, p. 3; Hudson Telephone Company, p. 14.

subsidiaries. Each individual company or division, however, retained its identity as a complete financial unit in that it received its own income, made its own expenditures, and effected its own borrowing. The nature of the control by the General Motors Corporation was that of advice without definite, applicable means of enforcement of such advice. Future plans for each company were drawn up in conferences with the executives of the General Motors Corporation, but in actual practice the executive heads of each division were allowed to conduct the affairs of that division as they deemed wise. Thus, the control policy was one of decentralization. The results of this policy later proved to be unsatisfactory in respect of inventory accumulation, and a system of adequate central control, therefore, seemed to be essential.

In addition to the Buick, Cadillac, Chevrolet, Oakland, and Oldsmobile automobiles, and GMC trucks, the General Motors Corporation manufactured the following nationally advertised trade-marked products: Fisher bodies, Delco light and power plants, Frigidaire, Hyatt roller bearings, New Departure ball bearings, Klaxon horns, Harrison radiators, Delco-Remy starting, lighting, and ignition systems, Jaxon rims, and AC spark plugs.

The company's plants were separated widely, as shown in Table 1.

TABLE 1
LOCATION OF GENERAL MOTORS CORPORATION'S PLANTS

State or Country	Number of Cities in Which Plants Were Located
California	2
Connecticut	3
Illinois	1
Indiana	2
Missouri	1
Michigan	7
New Jersey	3
New York	4
Ohio	3
Pennsylvania	2
Texas	1
Wisconsin	2
Canada	2

Under the supervision of the General Motors Export Company and General Motors, Limited, of Great Britain, which had sales branches in many parts of the world, the General Motors Corporation was developing extensive markets for motor cars abroad.

The weaknesses of the original production control policy were emphasized by the facts stated in the following quotation from the annual report to the stockholders of the General Motors Corporation for the year ending December 31, 1922.

On January 1, 1918, General Motors Corporation had total assets of \$133,789,724, including \$11,971,603 good-will, patents, and copyrights. On January 1, 1923, assets total \$522,335,034, including \$22,370,811 good-will, patents, and copyrights. At the earlier date the corporation consisted of the four passenger-car manufacturing divisions—Buick, Cadillac, Oakland, and Oldsmobile—and the General Motors Truck Division, having a capacity of about 223,000 cars and trucks per annum, as measured by maximum quarterly sales prior to 1918. The corporation owned no plant manufacturing small cars, and had no owned supply of accessories, such as lighting, starting and ignition sets, roller bearings, ball bearings, and so forth; it had no central experimental or development laboratories. Since January 1, 1918, the construction and expansion program has brought the corporation to a manufacturing capacity of 750,000 passenger cars and trucks per annum, has placed it in position to manufacture all of its electrical equipment, including spark plugs and warning signals, all radiators, and antifriction bearings, wheel rims, steering gears, transmissions, engines, axles, and open bodies. Through its stock holdings in Fisher Body Corporation, it controls the manufacture of its supply of closed bodies. The program was not developed as a whole but resulted from the constructive planning of three years. Confidence in the future was not misplaced, as sales in the last nine months of 1922 were at the rate of 515,000 units per annum, or 70% of the present manufacturing capacity; and single months have reached 80% of capacity. Estimates for the future indicate that the full manufacturing output will be required at no distant date.

The total cost of carrying out this program may be summed up as follows:

Real Estate, Plant and Equipment, Tools, and so forth, acquired years, 1918 to 1920, inclusive	\$214,605,825
Invested in allied and accessory companies.....	66,950,279
Total	\$281,556,104

The cash for carrying out this work was supplied from several sources as follows:

FROM EARNINGS:

Net earned income, three years, 1918 to 1920, exclusive of extraordinary write-offs of year 1920.....	\$193,801,804	(100%)
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Less: Federal taxes		
paid	\$47,274,750	(24%)
Dividends paid ..	57,386,370	(30%)
Balance of earned income avail-		
able for program	\$ 89,140,684	(46%)
Net amount available from re-		
serve accounts	<u>13,394,246</u>	
Total cash available for construc-		
tion and expansion program,		
from operations of 1918 to		
1920, inclusive	\$102,534,930	(27%)

FROM SALE OF SECURITIES:

Proceeds from sale of common		
stock	\$ 98,494,835	
Proceeds from sale of 6% deben-		
ture stock	25,425,000	
Proceeds from sale of 7% deben-		
ture stock	<u>10,098,700</u>	
Total cash due for construc-		
tion and expansion pro-		
gram from sale of securi-		
ties, 1918 to 1920, inclu-		
sive	134,918,535*	(35%)

FROM FUND FOR BONUS, ETC.:

From funds set aside in cash for		
bonus, etc., but paid in newly		
issued stock	<u>13,569,144</u>	(3%)
Total cash available from		
all sources	\$251,022,609*	(65%)

SECURITIES ISSUED IN PAYMENT FOR PROPERTIES

WERE:

Debenture and common stock..	\$122,141,520	
Purchase notes for part pay-		
ment Fisher Body Corporation		
stock	9,840,000	
Mortgages assumed on proper-		
ties purchased	<u>1,629,070</u>	
Total value of securities is-		
sued	<u>133,610,590</u>	(35%)
Total amount available for		
construction and expan-		
sion program	<u>\$384,633,199</u>	(100%)

SUMMARY

Total funds provided	\$384,633,199
Total expended on capital account.....	<u>281,556,104</u>
Balance available for working capital.....	\$103,077,095
Net working capital, January 1, 1918.....	<u>65,605,969</u>
Net working capital provided under program.....	\$168,683,064

*Of this total, only \$3,881,879 remained uncollected on January 1, 1921.

As the net working capital requirement of today, operating under a schedule almost identical with that laid down for the year August, 1920, to August, 1921, is about \$126,000,000, the net working capital

available under the original program, about \$168,000,000, should have been much more than sufficient for the lesser operations of the year 1921. From the above it is clear that full provision for the construction and expansion program of the years 1918 to 1920, including working capital, was made prior to the end of the year 1920. Therefore, this program was in no wise responsible for the financial difficulties under which the corporation labored during the latter part of 1920 and the year 1921. Explanation of these difficulties lies in another quarter.

- OPERATIONS OF THE YEARS 1920, 1921, AND 1922

At the close of the year 1920 the net working capital, exclusive of notes payable, in use prior to the write-off of inventories, was \$242,830,271 or \$116,354,034 above the amount required (December, 1922) to carry more than double the production of the earlier period. This made it necessary to borrow a maximum of \$82,784,824 (on October 31, 1920). The reduction of the surplus materials purchased at high prices, and of inventory and other commitments made prior to December, 1920, resulted in a total liquidation loss of \$84,869,893.

This condition of affairs was not reached without anticipatory warning. In the month of March, 1920, the president presented to the executive committee a schedule of proposed production made possible by the construction and expansion program then well on toward completion. He proposed that this schedule be adopted for the year August, 1920, to August, 1921. Though approved at the time, the schedule was revised in the month of May, 1920, to a proposed production almost identical with that in force during the last nine months of 1922. At this early date (May 13, 1920), the executive committee and finance committee noted the continued increase of inventories (to \$167,965,641 on April 30, 1920). The chairman of the finance committee explained fully to those in charge of operations of the corporation the necessity of control, and, at his suggestion, a committee was appointed to allot among the divisions of the corporation the \$150,000,000 considered available for inventories. The chairman also stated that it was necessary not to increase inventories beyond this amount during the succeeding twelve months.

The report of the inventory allotment committee was presented and approved before June 1, 1920. It was unfortunate that the rulings of the executive and finance committees and their cautions remained unheeded. As a result, inventories reached a total of \$209,000,000 at the end of October, 1920, exceeding by \$60,000,000 the allotments of the executive and finance committees and by \$100,000,000 the amount in actual use during the active summer of 1922. This excess accounted for about 70% of the borrowings at that time.

It was doubly unfortunate that the spirit of the committee rulings was totally disregarded by a few of the divisions, the losses of which, due to expanded inventories and commitments for the future, amounted to \$48,579,872, or much more than the total operating deficit of the

whole corporation during the year 1921. The operating losses of these divisions during the liquidation and reconstruction period of 1921 added \$15,330,938, making a total of \$63,910,810 on their account.

Though the losses above enumerated were enormous, it should be fully realized that they were not typical of the operations of the corporation as a whole; in fact, they related to 10 divisions only out of a total of 34. The sales and profits of the 24 normally operated divisions are shown below in Group I; the sales and profits of the 10 unsatisfactory divisions are shown in Group II. Of these 10, 5 were of small importance and were liquidated in 1921. Another, the Samson Tractor Division, is dealt with separately. The remaining four divisions of Group II have since been restored to more normal conditions and to an earning power in line with the divisions classed as Group I.

The following tabulation will better illustrate the relative importance of the two groups:

Divisions Involved	Group I 24	Group II 10
Net Sales:		
1920	\$362,409,005	\$204,911,599
1921	208,438,291	96,048,952
1922	296,756,778	161,713,088*
Net Profits:		
1920	68,525,545	18,336,690
1921	22,802,537	15,330,938†
1922	59,078,448	11,007,517‡
Extraordinary write-offs, inventory adjustments and liquidation losses, 1920-1921-1922	36,290,020	48,579,872
Extraordinary write-offs compared to 1920-1921-1922	4.2%	10.5%

*Does not include liquidating sales of Tractor Division.
†Loss.
‡Does not include \$5,688,091 liquidating loss of Tractor Division.

TRACTOR INVESTMENT

In the year 1917 General Motors Corporation purchased the stock of the Samson Sieve Grip Tractor Company of California. This company and its product had been under investigation by the president, and the purchase was made by him. He became general manager of the Samson Tractor Division of the General Motors Corporation. On his recommendation the executive and finance committees voted appropriations for permanent investment in the tractor division amounting to \$10,428,416, afterwards increased by \$3,021,034, principally to cover overrun expenditures, and, in May, 1920, allotted to the division \$7,000,000 for inventories. At the close of the year 1919 the division's new facilities for the production of 100,000 tractors per annum were reported practically complete. (At that time the total investment amounted to \$7,485,346.) On October 31, 1920, the fixed investment in the tractor division amounted to \$10,905,927, and working capital to

\$18,595,144, a total of \$29,501,071. The operating losses prior to December 31, 1920, and exclusive of extraordinary write-offs of that year were:

1917	\$ 24,467
1918	1,868,986
1919	1,823,883
1920	<u>8,228,956</u>
	\$11,946,292

After the tractor was fully developed and priced at \$650, it was found that it could not be marketed profitably. Prices were raised only to discover that sales could not be made in competition with more cheaply designed tractors. In the meantime, numerous commitments for materials had been entered into, with a view to producing 70,000 tractors of this class; and, in addition, materials for producing 60,000 tractors of another class. This was the situation as it appeared December 1, 1920. The loss in liquidating inventories and commitments of this division amounted to \$21,293,752, in addition to the operating losses above noted of \$11,946,292, making a total loss incurred of \$33,240,044. Today the plant of the tractor division has been turned, in greater part, to other uses. As the liquidation of this division has been completed, no further operating loss is to be expected.

The localization of the troubles of 1920-1921 makes it possible to present a fair comparison of the corporation's earnings of the years 1919-1922, inclusive, as shown on the following page.

Thus has General Motors Corporation, in the brief period of five years, expanded its plant investment five times under a program that was completely financed as work progressed. The wisdom of the plan is shown by the fact that there is now demand for 80% of the facilities provided, with promise of full use of these facilities at an early date. The plan is one that calls for no apologies for its inception and development, but it should be a source of satisfaction and pride to those who were responsible therefor.

Excepting for the year 1921, earnings of the corporation have been satisfactory. The year 1921 showed a shrinkage of 45% in number of cars produced, and 44% in volume of sales, when compared with an average of the two preceding years, a record not in itself abnormal, considering the general trend of economic conditions at that time. The greater part (68%) of the corporation's business in 1921 was satisfactory though suffering losses through the rapid decline in values, but these losses, if averaged into the period in which they justly belong, leave a satisfactory profit for these years as a whole.

Narrowing now to the smaller part (32%) of the business of 1921, involving only four divisions now active, we find conditions accounting for 70% of the losses that were a matter of great concern during the winter of 1920-1921, and accounting for losses of \$63,000,000. This localization of the source of trouble is a comfort, for it reduces the likelihood of recurrence. There seems to have been no real necessity for the management of the divisions involved in losses to have faced greater

	1919	1920	1921*	1922
Gross capital employed at end of year.....	\$469,737,345	\$604,806,868	\$404,914,312	\$522,335,034
Earnings before dividends and federal taxes.....	90,517,519	67,779,710	21,116,697	62,611,244
Federal taxes.....	30,000,000	3,894,000		6,250,000
Earnings for stockholders before write-offs.....	\$ 60,517,519	\$ 63,885,710	\$ 21,116,697	\$ 56,361,244
Write-offs of inventories and commitments.....		26,002,188	59,796,490†	4,553,796
Net earnings as per annual statements.....	\$ 60,517,519	\$ 37,883,522	\$38,679,793‡	\$ 51,807,448
Sales, cars and trucks.....	391,738	393,075	109,396	456,763

*Group I divisions only. †Includes losses of Group II divisions. ‡Loss. §Sales Group I divisions only.

The earnings of these four years, 1919 to 1922, inclusive, as shown above, may be summarized as follows:

SUMMARY

Earnings:

Total earnings four years, 1919-1922 before taxes (including Group I divisions only for 1921).....	\$242,025,170
Less extraordinary losses (Group I divisions 1920, 1921, 1922).....	36,290,020
	\$205,735,150

Disposition:

Cash dividends, debenture and preferred stocks.....	\$ 22,572,176	
Cash dividends, common stock.....	65,863,224	
Total cash dividends.....	\$ 88,435,400	43%
Stock dividends paid on common stock.....	12,940,435	6%
Federal tax provision	40,144,000	20%
Total losses, Group II divisions.....	63,910,810	31%
Surplus	304,505	00%
	\$205,735,150	100%

troubles than those experienced in other divisions of the corporation where conditions were satisfactory.

Three considerations make recurrence of the 1920-1921 disaster seem unlikely, if not impossible. First, it is doubtful if the sharp decline in prices witnessed during that period will recur. The extreme rise was due to the war and deflation was more precipitate than ever before known. Second, a complete system of inventory and purchase control has been established in the corporation. This system embraces a monthly statement of inventories and future commitments beyond which the divisions are not permitted to proceed without specific authority. Under this system a shrinkage in business such as occurred in the years 1920-1921 could not result in a repetition of the inventory troubles of those years. Third, the system of consolidated cash control installed during the year 1922 makes possible more effective use of the funds of the corporation.

The purpose of the above recital is to show definitely that the troubles of past years were not related to an ill-financed expansion program or to delay in receiving the proceeds of financing. It is quite certain that the funds provided before the close of the year 1920 were sufficient to carry

out the whole program and also to finance new business offered during the year 1921 and the first half of the year 1922. It is equally certain that disregard for control of inventories and purchase commitments cost the corporation a very large sum of money, of which the greater part might have been saved by proper safeguards in divisions now differently managed. Further, it is important to the stockholders to know that the financial misfortunes of the corporation in the past were only slightly related to the manufacture and sale of its products, but that these misfortunes were directly related to loose and uncontrolled methods which are now corrected.

The company's problem was to devise a method of control so centralized that the mismanagement of 1921 might not be repeated. At the same time, however, it was necessary to allow the chief executives of the different divisions adequate responsibility and freedom of judgment. It was necessary, furthermore, that in an organization so large and widely diversified as the General Motors Corporation, the executives be free to decide questions of fundamental policy rather than of administrative routine, and that a clear and well-recognized distinction should be made between such questions.

The following method of inventory control was devised and adopted in 1922. At the beginning of every year, the chief executives of each division were to prepare forecasts of sales for the coming year and detailed estimates of the working capital required to finance the expected production. The forecasts were to be threefold: first, an optimistic forecast, or estimate of the largest sales that might be obtained; second, a conservative forecast, or estimate of the sales really expected by the executives; third, a pessimistic forecast, or estimate of the sales under the worst conditions that might exist. These forecasts were sent to the president and to the finance committee, to serve as a background for the interpretation of subsequent detailed reports.

On the twenty-fifth of each month, the executives in charge of each division were to prepare forecasts of sales and production in dollars for the current month and the following three months. Forecasts also were to be made in units for divisions in which units were significant. With these forecasts as a base, the same executives were to estimate in detail the amount of inventory on hand at the end of each of the four months. The sum of inventories and commitments at the time of the forecast should not exceed the requirements for the subsequent four months. The

different divisions were grouped according to their classification as motor car, accessory, or research divisions. In charge of each group was an executive to whom were forwarded each month the estimates and forecasts. They then were sent to the president of the corporation.

The estimates and forecasts of each division executive required the approval and authorization to act of both the group executive and the president of the General Motors Corporation. In the president's office the reports were examined by an assistant, who made notations of any unusual figures. The president spent about one day each month in analyzing the reports.

To make the system sufficiently flexible to permit commitments for materials in excess of four months' supply when unusual situations arose, it was provided that any division head might fill out a form for these forward commitments, stating the amount and reasons therefor. This form also was forwarded to the group executive and the president of the corporation for the personal approval of each.

Assistants in the president's office prepared the data for use. The foregoing estimates were summarized in one forecast for the General Motors Corporation as a whole, to include inventory, stock-turn, production, sales, finished stock on hand, and commitments. Continuous comparisons of all estimates with actual results for an eight months' period were made at the end of each month for each division. These provided a basis for interpreting current forecasts in the light of their accuracy during the preceding four months. The divisional comparisons then were summarized in one general comparison which was submitted monthly by the president to the finance committee. To stimulate accuracy in making forecasts, the corporation sent monthly to all divisions a sheet on which was listed each division in the order of its percentage of accuracy.

4. LITTLE NECK TEXTILE COMPANY¹

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POSTPONEMENT OF PLANT EXPANSION. Unfilled orders on the books of the Little Neck Textile Company, in April, 1920, and an uneconomical plant layout made a rearrangement of existing facilities and the addition of a new mill building appear desirable. Transportation difficulties, labor

¹Fictitious name used for purpose of disguise.

shortage, uncertainty as to prompt delivery of new machinery, and excessively high capital charges which would be required for the new building caused the officials of the company to decide to delay the contemplated expansion for at least six months.¹

(1920)

In April, 1920, the Little Neck Textile Company contemplated adding an extension to its plant. The mill manufactured textiles and finished bed sheets which it sold both to wholesalers and retailers. The sheets were branded and well advertised. The production facilities had not been increased since 1914, but there had been a large increase in the demand for the product. The advance orders on the books of the mill were sufficient for seven or eight months' operations. There apparently was little likelihood of competition from England on sheets for some years to come. On account of the shortage of freight-cars, the company had experienced difficulty in delivering its product. About two months' completed stock, which could be applied to customers' orders, was then in the warehouse. The mill's valuation was as stated in Table 2.

TABLE 2
VALUATION OF LITTLE NECK TEXTILE COMPANY,
APRIL 1, 1920

Total Assets	\$1,500,000
Net Worth	650,000
Working Capital	850,000
Sales (about)	2,000,000
Seven Per Cent Preferred Stock.....	500,000
Common Stock	500,000
Net Earnings for 1919.....	400,000
Net Earnings after Allowance for Taxes.....	300,000
Borrowings	700,000

Borrowings at this time were at the peak but customarily were reduced to nothing at the end of the company's fiscal year, October 31.

The new plan proposed a 40% increase in production. The machinery then in use was in good condition, but the buildings were not well arranged. To make possible a more economical utilization of existing facilities, an additional mill building was necessary. The cost of building, however, was at least three

¹See also Montross Mills, p. 33.

and possibly four times pre-war cost. New construction would not interfere with continuous production. It was possible to have building plans ready in six weeks. Occupancy was assured for February, 1921, if the building were started immediately. It was planned to place the contract on a cost-plus basis. The estimated cost was about \$375,000.

The proposed extension would have made necessary the purchase of more yarn, probably of a lower grade. Machinery manufacturers stated that it was impossible to secure delivery of special carding and weaving machinery until March or April, 1921, or of spinning and carding machinery until late in 1923.

The labor situation in the mill town was a serious handicap. There was no surplus of labor, and houses were not available for new families. Rearrangement of the plant, however, meant the release of a substantial amount of labor. The superintendent stated that a new mill usually attracted additional workers. To accommodate the additional workers needed, the company proposed to build seven or eight houses, to be sold to employees at a total cost of about \$50,000 and at a loss of \$1,000 on each.

The number of orders on the company's books indicated a continued strong demand for its products for several months to come. Even should orders fall off rapidly throughout the cotton industry as a whole, the previous success of the company in selling its entire output during the dull season of 1912-1913 led to an expectancy of satisfactory operations even in dull periods. It was desirable that the company accept as many orders as possible in order to maintain its position in the trade. This was difficult if demand remained firm and production was not increased to meet it. Despite the heavy building cost, a substantial saving was probable through better utilization of existing factory buildings and a consequent saving in labor cost. On the other hand, transportation facilities were inadequate for current production. Costs and selling prices of the company's products were much higher than at any other time in its history.

It was possible that because of existing high costs of building, a large capital saving might be made if construction were postponed. Because of the shortage of labor, immediate reduction in labor costs was not to be expected. Difficulty was expected in securing adequate labor for increased production, despite the release of workers by plant rearrangement. The new houses

necessary to attract additional laborers would have to be built at excessive cost.

The Little Neck Textile Company decided that existing conditions did not justify the building of the addition. The decision was not definitely to reject the construction of the extension but rather to wait for a period of about six months in order to see whether demand for the company's products remained strong and whether building costs remained at their high level. Before this six months' period had ended, the price of cotton cloth had dropped rapidly and the demand for the company's goods had declined severely.

5. MONTROSS TEXTILE MILLS¹

REPLACEMENT OF OBSOLETE MACHINERY DURING PERIOD OF INFLATED PRICES.

A company which manufactured high-quality textiles had much obsolete machinery and therefore could not continue to meet competitors' prices. The management consequently decided in February, 1920, that a large part of the machinery, despite the inflation of prices for such equipment, should be replaced without delay.²

(1920)

The Montross Textile Mills, situated in New England, manufactured high-quality cotton sheetings, lawns, oxfords, and a few varieties of fancy goods. One building had been erected about 1850, and others had been added subsequently as the earnings of the company increased. In 1919 there were 10 buildings in the plant. Inasmuch as few replacements of equipment had been made, the ages of the mill machines varied from 25 to 60 years. They had been kept in repair but had become obsolete. It was increasingly obvious that in the not distant future the company could not profitably continue to meet competitors' prices successfully, because of high labor costs, low production per machine, and the excessive quantity of defective products which resulted from the use of obsolete machines. This condition seriously affected the morale of the working force. Discontent was general among the managers and workers. In February, 1920, therefore, the directors reviewed several plans for rectifying the situation.

¹Fictitious name used for purpose of disguise.

²See also Little Neck Textile Company, p. 30.

Although options on replacement machinery, obtained in December, 1919, in anticipation of higher prices, were still effective, there was a difference of opinion as to whether the option rights should be exercised.

One suggestion was that the company sell the plant in order to save the heavy expense of remodeling during a period of high prices and to relieve the management of difficult reorganization problems. The directors believed, however, that the plant could be operated on a profitable basis if new machinery were installed; they were not convinced, furthermore, that the plant, without rehabilitation, could be sold at a satisfactory price. They also discussed the operation of the mills without appropriations for repairs or upkeep. When the New England mill should become incapable of further production, a new mill might be constructed in the South with the savings that had resulted, together with the necessary additional capital. In spite of the lower operation costs prevalent in the South, the directors realized that the use of unskilled labor, the only type available there, might endanger the company's reputation for high-quality products. They believed, moreover, that the disappearance of lower costs in the South was inevitable in the course of eight or ten years. The management decided, consequently, to replace a large part of the machinery.

There was a marked difference of opinion as to the time for replacement to begin. Several directors deemed it impossible for the high prices of machinery and the high rates of interest to continue, and favored a postponement of the program. After the options had been secured, prices had risen 10%, and the machinery manufacturers informed the directors that they expected further increases. To a majority of the directors, a period of lower prices seemed too remote to justify postponing the purchase of equipment. Even if a depression should occur immediately, it was essential that the mills be able to operate at a lower cost. It was agreed that it was more advantageous to have a mill, with a debt, that could earn dividends during a depression than to have a mill which did not earn dividends, although it had no debt. In general, it seemed more economical to pay high prices for the machinery and high rates of interest on borrowed capital than to enter a period of declining sales with a mill that was unable to meet competitors' prices. It would be less

difficult, furthermore, to install machinery when orders were scarce than during a period of prosperity when customers' orders required continuous production.

The contemplated program of replacement required an expenditure of about \$2,000,000. A reserve for machinery depreciation had been set up in previous years. Funds from that reserve were not available, however, since they had been used to purchase large stocks of high-price materials and to finance previous expansions. None of the directors deemed it wise to issue bonds for any part of the \$2,000,000, because bankers and investors did not favor New England cotton mill bonds. Issuance of preferred stock was impossible, because the common stockholders did not approve of having such an issue placed ahead of their claims. In regard to the issuance of securities, therefore, the company was restricted to an increase of the common stock by whatever amount the stockholders sanctioned. The entire capitalization of the plant was \$3,000,000 of common stock. Although the stockholders were willing to invest only \$1,000,000, they refused to permit the sale of new stock to the public. The company could secure the additional \$1,000,000, however, by increasing its bank loans. In 1919 the dividends had been earned more than twice over, and in the six months ending January, 1920, earnings had been in excess of three times the amount necessary for regular dividends. Several New England banks were consulted and expressed willingness to extend credit for \$1,000,000, on the basis of these earnings.

The options secured in December were taken up, and \$2,000,000 worth of machinery was ordered. The capital was increased from \$3,000,000 to \$4,000,000; each stockholder was entitled to subscribe at par to one share of stock for each three shares of stock already held. An agreement was made with the banks for them to advance a loan of \$1,000,000, whenever required. By January, 1921, stockholders had subscribed for \$877,000 of the new stock; the remainder was sold to employees at par.

In May, 1921, business conditions were decidedly unfavorable, and there were prospects that machinery prices might decline substantially. Two stockholders advised the discontinuance of the replacement plan. Since it was feasible to operate the mills with the remaining old machinery and such new machinery as had been installed, they suggested cancelation of contracts and pay-

ment to the machinery companies of whatever was necessary. They believed that further replacements could be made subsequently under more favorable circumstances. The directors decided, however, that it was wiser to continue despite the decrease in machinery prices and to put the mills in condition to produce at a low cost. Through his friendly relations with the machinery companies, the treasurer secured a few small reductions from the contract prices, although they were not equal to the general market reductions.

By the summer of 1923, most of the replacement had been completed and the entire program was expected to be finished by the fall of that year. Machinery prices had declined 20% from the highest point, although this was only 10% below the price at which the machinery had been secured in December, 1919. The first bills for the machinery were not due until the latter part of 1921, with the result that the bank loans were not secured until that time. Money rates then were beginning to decline; 6% was the highest rate paid. Loans were required for new machinery, and for repairs and alterations of buildings, at the dates indicated in Table 3.

TABLE 3

DATES AND AMOUNTS OF BANK LOANS REQUIRED BY MONTROSS TEXTILE MILLS FOR NEW MACHINERY, AND FOR REPAIRS AND ALTERATIONS OF BUILDINGS, JANUARY, 1921, TO JULY, 1923

Date	New Machinery	Necessary Repairs and Alterations of Buildings
January 1921	\$ 60,000	\$ 43,000
July 1921	324,000	69,000
January 1922	1,426,000	75,000
July 1922	1,583,000	75,000
January 1923	1,923,000	213,000
July 1923	2,164,000	244,000

When the company had adopted the program in 1920, it had expected to repay the bank loans with the surplus earnings of three years. The depression was so severe that this was not possible, and the loans were outstanding in the summer of 1923.

At that time, the company could meet the prices of any competitor, however, and was earning more than twice the dividends on the capitalization, whereas with the old machinery, it probably would have shown losses at least twice the amount of the actual

dividends. After the working force became thoroughly familiar with the new machinery, the cost department reported that production costs were lower than the estimates that had been made before the machinery was installed. For instance, in one mill, which manufactured lawns, automatic looms had replaced obsolete plain looms. As a result a weaver of lawns could tend 23 looms instead of 8. Against 89 yards on the old equipment, 121 yards of lawn were produced per week per loom. Ninety-eight per cent of capacity output was secured on weaving lawns, in comparison with 70% previously attained. Production of lawns and oxfords on the new automatic looms instead of on the old plain looms resulted in the savings indicated in Table 4. Raw material costs were omitted from the computation. Labor costs were adjusted to the 1923 wage basis for purposes of comparison. The lower overhead costs, however, were caused in small part by lower prices of supplies. These prices were not adjusted.

TABLE 4

SAVINGS PER YARD EFFECTED BY MONTROSS TEXTILE MILLS IN PRODUCTION COSTS OF LAWNs AND OXFORDS BY USE OF NEW AUTOMATIC LOOMS

LAWNS		
	Old Plain Loom (Estimated Manufacturing Costs, 1923)	New Automatic Loom (Actual Manufacturing Costs, 1923)
Yarns per yard (including rewinding).....	6.69 cents	7.43 cents
Drawing-in per yard.....	.12	.14
Weaving per yard (labor)*.....	2.91	1.05
Weaving expense per yard (overhead).....	3.06	2.31
Cloth room per yard.....	.21	.24
Total manufacturing cost per yard.....	12.99 cents	11.17 cents
Saving per yard.....		1.82 cents

OXFORDS		
	Old Plain Loom (Estimated Manufacturing Costs, 1923)	New Automatic Loom (Actual Manufacturing Costs, 1923)
Yarns per yard (including rewinding).....	5.65 cents	5.95 cents
Drawing-in per yard.....	.12	.34
Weaving per yard (labor)*.....	2.31	.64
Weaving per yard (overhead).....	1.25	.98
Cloth room per yard.....	.24	.24
Total manufacturing cost per yard.....	9.57 cents	8.15 cents
Saving per yard.....		1.42 cents

*Labor costs were adjusted to 1923 wage basis.

The higher cost of the yarns resulted from the introduction of a new winding process after spinning. This improved the quality of the yarns and reduced the breakage of yarn in the weaving operation.

In the summer of 1923, the total savings in production costs on these looms over the former basis were at the rate of \$168,000 per year, \$75,000 more than had been estimated. In addition to these savings, production was much more flexible, since different kinds of cloth could be made by the same machinery, orders could be shifted from mill to mill, and accumulations in any one mill could be avoided. Deliveries, furthermore, were made more promptly. The quantity of seconds had been reduced greatly; the quality of fancy goods had been improved and made more uniform; and the percentage of waste material in several instances had been reduced as much as 50%.

6. ALLAGASH SHOE COMPANY¹

RAW MATERIAL PURCHASES DURING PERIOD OF INFLATION. In the spring of 1920 the company received numerous orders for shoes to be manufactured for fall delivery. Because raw materials were rising in price and were increasingly difficult to obtain, the purchasing agent recommended the immediate purchase of full requirements of raw materials.

RESTRICTION OF RAW MATERIAL PURCHASES. Despite the risk that raw materials might not be obtainable if business continued active through the fall of 1920, the company decided to purchase only 25% of the raw material requirements indicated by orders already received.²

(1920)

During the first few months of 1920 the Allagash Shoe Company received for the fall trade the largest quantity of orders in its history. Manufacturing of merchandise to fill spring orders normally commenced in April and May, and deliveries were made in July, August, and September. In February, 1920, the purchasing agent consulted the president regarding the quantities of leather and materials to be purchased to cover the spring orders. The purchasing agent recommended that the company buy its full requirements of raw stock at once, inasmuch as leather and other materials were rising continually in price and were becoming increasingly difficult to obtain.

For several months prior to 1920, shoe factories throughout the United States had operated at full capacity and had sold their

¹Fictitious name used for purpose of disguise.

²See also Henshaw Breakfast Food Company, p. 40.

stocks readily to retailers. Retail distribution, although excellent, had not been sufficient to justify the abnormal volume of production. Excess stocks of merchandise, therefore, had accumulated in the retail shoe stores. Prices had been rising steadily for several seasons, and consequently retailers had not felt the normal pressure to dispose of their old stocks before ordering new.

Because the president believed that shoe prices were inflated excessively, and that a decline in the near future was probable, he considered it unwise to purchase more than a small proportion of the company's requirements of raw material during the spring of 1920.

Other executives in the company opposed the views of the president. They pointed out that supplies of leather appeared small, that leather prices were rising rapidly, and that congested railroad conditions made it imperative to have raw material shipped several weeks before it was needed. They predicted not only that the company would have to purchase raw materials at higher prices, but that probably it would not be able to secure raw materials at all, and consequently would lose its relative position in the industry.

A study of conditions convinced the president that customers were placing orders on the supposition that the period of inflation would continue throughout the year. He preferred, therefore, to risk the disadvantages under which the company would operate if the decline in prices were delayed, rather than to have the company stocked heavily with raw material when the depression came. He foresaw that if he could reduce the inventory so that the company's losses would be slight, after the decline he would be able to purchase raw materials at much lower prices, and to undersell other manufacturers who would be trying to liquidate high-price inventories.

The president instructed the purchasing agent to restrict his purchases to 25% of the quantity of raw material required to fill the total number of orders. This policy was adhered to during the spring of 1920, in spite of the protests of the other executives and particularly of the sales organization. By early summer, the period of deflation which the president had foreseen set in. Conditions in the shoe industry became extremely unfavorable, and there was a universal tendency for retail shoe dealers to request the cancelation of orders.

7. HENSHAW BREAKFAST FOOD COMPANY¹

RETAILERS' ADVANCE PURCHASES. Although prices of the company's breakfast foods customarily exceeded those of competing products, the company further increased its prices in 1919. Because of the increase, retailers bought in advance to insure adequate supplies and to make speculative profits.

RESTRICTION OF SALES. Early in 1920 the company forecasted a business depression and decided to accept orders from retailers only for their immediate needs.²

(1920)

In the latter part of 1919, because of advanced prices for its products, the Henshaw Breakfast Food Company increased the amount of credit allowed to retailers. If the existing credit limits had been maintained, the quantity of goods which a retailer was allowed to buy on open account would have been decreased. In the first months of 1920, several executives of the company suggested that the sales department should instruct the salesmen to accept orders from retailers only for their immediate requirements. As a result of the rapid increase in prices, retailers were buying in advance in order to be sure of a sufficient supply, and to make speculative profits.

Under scientific manufacturing conditions, the Henshaw Breakfast Food Company prepared several varieties of cooked breakfast foods from the best materials obtainable. Prices, therefore, were higher than those of competitive products. The executives believed, however, that the quality of the products sold under the company name was superior to that of other breakfast foods on the market.

The company maintained branches in numerous cities in the United States and sold directly to retailers. In a few distant territories, however, the products were sold to wholesalers. Salesmen from the branches did not report to the main office. Each branch maintained stocks and made deliveries by truck to retailers in the neighboring territory. Salesmen visited urban retailers weekly, and suburban and rural customers less frequently but at least once a month. Orders from retailers ranged from \$5 to \$50.

¹Fictitious name used for purpose of disguise.

²See also Allagash Shoe Company, p. 38.

It had been the general policy of the company to allow a liberal margin of profit and to aid retailers in every manner possible in selling the company's products. National advertising was conducted on an extensive scale; through this, the company aimed to create consumer acceptance, by familiarizing consumers with the Henshaw name. This was in contrast to the policy of several of the company's competitors, whose advertising was designed to create consumer insistence on their brands. The company employed missionary salesmen at the branches, who visited each retailer from three to six times a year. They distributed free window displays and suggested the most effective methods of arranging them. These salesmen also gave advice on accounting methods, purchasing policies, and arrangement of stock. In addition, the salesmen who received orders arranged for each retailer to give free samples of Henshaw products to customers twice a year. The salesmen served cereals with cream and sugar to the store's visitors; this advertised the Henshaw products and created good-will between the retailer and his customers.

A rigid credit policy for all the branches had been laid down at the main sales office. Retailers were allowed a maximum amount of credit depending upon the ratings at a commercial credit agency. Special provisions were made for retailers who were commencing business. No branches or salesmen were allowed to give credit in excess of these amounts.

The executives who suggested to the sales department that the size of retailers' orders be restricted, asserted that the arrangement would prevent retailers from overstocking. They stated that the existing prosperous conditions could not continue permanently and that such a policy would reduce the cancelations and bad-debt losses when a depression occurred. Retailers' losses, furthermore, would be less if their stocks were small. The perishable nature of the company's products made such a plan especially advisable. It was important that consumers purchase fresh cereals, and that the containers should not be soiled and bruised by remaining for too long a period on the retailers' shelves. Since deliveries were made by trucks from the branches, the retailers' needs could be met promptly.

The plan, on the other hand, might incur the ill will of the retailers, who wished to protect themselves against stock shortages and price advances. If the company refused to sell as

large a quantity of its products as a retailer desired, competitors might increase their sales at the expense of the Henshaw Breakfast Food Company.

The sales department decided, however, to restrict the orders accepted from retailers to the quantity that could be disposed of during the interval between the salesmen's calls. Instructions were sent to the branches; these directions, in turn, were given to each salesman. A retailer was to estimate his needs, but the salesman, if he found on his second call that the retailer had a large quantity of the company's products in stock, was to restrict accordingly the size of subsequent orders accepted. Although the salesmen received definite instructions, they were to use their judgment in individual cases.

The executives of the Henshaw Breakfast Food Company reported that the plan was thoroughly successful; little retailer opposition was met, and the salesmen were able to convince those who did protest that the arrangement was to their benefit. In the latter part of 1920 and during 1921, the company's cancelations were inconsequential; when the company reduced its prices, retailers' losses were small. Consumers had received fresh cereals in uninjured containers.

8. DAMERON SHOE COMPANY¹

EXCESSIVE INVENTORY CAUSED BY SPECULATIVE PURCHASES. In this retail shoe store, whose price range was from \$8 to \$20 per pair of shoes, speculative purchases resulted in excessive inventories in April and May, 1920.

LIQUIDATION OF STOCKS—BUSINESS DEPRESSION. At the first realization of the coming business depression, the company decided to take an immediate mark-down and inventory loss, in order to liquidate its stock rapidly.

DISCONTINUANCE OF SPECULATIVE PURCHASES. To secure new styles promptly by frequent purchases, and to prevent future inventory losses, the company decided to concentrate on merchandising needs and to avoid speculative purchases.

(1920)

In May, 1920, the Dameron Shoe Company, which operated a retail store advantageously situated in the loop district of

¹Fictitious name used for purpose of disguise.

Chicago, decided that its inventory was too large. The firm sold merchandise of high quality, and emphasized distinctiveness in style as a selling appeal. Retail prices of the shoes ranged from \$8 to \$20 per pair. The Dameron Shoe Company attracted an exclusive class of customers, and had established a reputation for fine shoes, all of which were sold under the store's own brand name.

In the latter months of 1919, and in the early part of 1920, the sales of the store showed an unusual increase. Prices were advancing, and the management of the Dameron Shoe Company interpreted these signs as an indication that the period of prosperity was to continue. Stores that sold merchandise in which style was less featured usually placed most of their orders for spring delivery in the fall, and the orders for fall delivery in the spring. Until the latter part of 1919, however, it had been the policy of the Dameron Shoe Company to place orders frequently throughout the year in order to have the stock conform to the changing style tendencies. Purchases in excess of requirements occasionally had been made, when it appeared evident that a speculative profit could be realized through the appreciation of inventory on a rising market; that policy was followed during the latter part of 1919 and 1920. Consequently, it was impossible to give the customary consideration to the style element. A class of customers, who in normal times obtained shoes from medium-price stores, then could afford to make purchases at the Dameron Shoe Company's store. These additional sales enabled the company to secure a high monthly rate of stock-turn in spite of its temporary departure from former merchandising methods.

As a result of this purchasing policy, in April, 1920, the store had accumulated an inventory which at retail prices amounted to \$255,035, the largest in the company's experience until that date. This valuation exceeded, by \$17,691, the highest previous inventory, which had been recorded at \$237,344 in February, 1920. In May the inventory was smaller by only \$9,816. In that month, however, the management realized that a period of general depression was imminent and that buying could not continue at the prevailing high prices. Manufacturers and retailers began to reduce the prices of shoes. It was at this time that John Wanamaker in Philadelphia made effective a price reduction on all merchandise. A so-called "buyers' strike" followed.

The management deliberated on the advisability of a flat mark-down of 20% on all merchandise in the store. An objection to this procedure was the risk that the prestige of the store might be lowered to that of stores which placed emphasis on the price appeal. A price reduction of 20% on the excessive inventory at that time involved a substantial sacrifice of expected profits. On the other hand, it appeared that since consumers no longer were willing to pay the prices that had prevailed, they were more inclined to accept reductions as indications of sound merchandising than of lowered quality or service. It was also patent that unless a mark-down were taken, a low rate of stock-turn for the year was inevitable, even though the curtailment of consumer purchases lasted only a few months. If prices were marked down at once, the store could sell on the basis of replacement costs and secure a higher rate of stock-turn. Since nearly all retailers had similarly extensive inventories, a surplus of shoes was probable for many months, and stores which liquidated earliest, therefore, should be in advantageous positions.

The Dameron Shoe Company decided on a reduction of 20% in the prices of all merchandise, to become effective June 1, 1920. The sales of June, 1920, the month in which the 20% reduction was taken, amounted to \$62,843 and proved to be larger than sales during any other month of 1920 or 1921. Because of the

TABLE 5
MONTHLY NET SALES AND INVENTORIES OF DAMERON SHOE COMPANY,
AT RETAIL SELLING PRICES, 1920 AND 1921

Month	1920		1921	
	Net Sales	Inventories	Net Sales	Inventories
January.....	\$ 58,426	\$215,697	\$ 53,543	\$164,747
February.....	49,006	237,344	35,977	142,739
March.....	51,280	231,837	49,519	114,325
April.....	51,782	255,035	47,233	117,457
May.....	56,381	245,219	51,649	118,512
June.....	62,843	242,724	56,564	118,962
July.....	36,044	216,770	32,985	121,842
August.....	35,045	201,861	35,815	133,578
September.....	45,768	188,552	45,227	133,613
October.....	48,888	184,482	56,865	157,470
November.....	54,055	181,489	55,844	163,951
December.....	55,319	173,415	56,202	173,628
Total.....	\$604,837		\$577,423	

price reduction, the number of pairs sold was greater than the sales in dollars indicated. It was certain that the net loss was ultimately less than if the reduction had not been made quickly. Because of seasonal tendencies, sales during July and August were comparatively small.

After June 1, 1920, the store purchased only enough new merchandise to maintain complete stocks of sizes and styles. Table 5 shows the effect of the price reductions and restricted buying policy on monthly sales and inventories during the latter part of 1920 and during 1921. The figures represent retail selling prices.

The inventory, expressed in dollars, was reduced from the high point of \$255,035 in April, 1920, to a low point of \$114,325 in March, 1921. A question then arose as to the advisability of speculative purchases and the accumulation of another extensive inventory at low prices.

On the advancing market in the latter part of 1919 and the early months of 1920, the appreciation of inventory had increased the profits of the company. The profit and loss statement, however, showed that all the gains obtained from rising prices had been wiped out in the later abrupt price recessions. In addition, there was a marked increase in the number of styles after June, 1920, caused by the efforts of manufacturers to stimulate sales by the introduction of novel styles. The Dameron Shoe Company decided that if it purchased heavily, there might be a risk not only in respect of price, but also in respect of style. The true purpose of a retail store, furthermore, was held to be that of merchandising; the efforts of the management, therefore, should be devoted to that end alone. Many of the temporary customers of the prosperous period of 1920 were forced to confine purchases to stores with medium-price shoes. The customers who remained demanded new and varied styles, and to meet this demand, the store had to make its purchases frequently.

The Dameron Shoe Company decided, after the experiences of May and June, 1920, that it should refrain in the future from making greater purchases than necessary to fill the immediate normal demands of its customers. By following the new policies, the company expected to improve its merchandising methods, and to be able at all times to fill the needs of its customers without taking the risks involved in clearly speculative commitments.

9. JUSTIN SPECIALTY STORE¹

2451-188

PURCHASE LIMITS FOR STYLE MERCHANDISE. For 10 years the millinery department of this specialty store operated at a net loss. The company decided to establish purchase limits in color, price, type, and age in accordance with demand as indicated by the sales records.

STOCK-TURN—MARK-DOWNS. The rate of stock-turn increased and the extent and frequency of mark-downs decreased.

(1921)

The millinery department of the Justin Specialty Store operated at a net loss for 10 years. The buyer customarily purchased larger stocks than could be sold at the original retail prices and substantial mark-downs were necessary at the end of each season. Special sales at reduced prices frequently were held to facilitate disposal of the stock. Because of the stocks of old hats carried and the lack of attractive selections of new merchandise, furthermore, the department lost the good-will of customers.

In order to improve the operation of the department, the manager of the store considered the experiment of planning stocks and purchases by pieces, and of limiting the buyer to definite buying plans. The buyer of the department, however, was opposed to the change because she saw in it a reduction in her responsibility and authority. In her opinion, this plan could not prove advantageous for the whole store because of its restriction upon the exercise of initiative by the buyers. She opposed it also on the ground of expense, since such planning entailed the keeping of additional detailed records. The objections of the buyer constituted one of the chief obstacles to the contemplated experiment, because her cooperation was essential to the satisfactory development of the department.

A decision to plan stocks and purchases by pieces in the millinery department, however, was made late in 1921. The manager induced the buyer to cooperate in the experiment by giving her entire responsibility for the choice of styles within price and color limits. A study was begun immediately of the daily record of sales in the department. On the record, all hats sold were listed by style numbers, materials, colors, shapes, and prices. First, the records for 1921 were tabulated month by month according to price. It was found that, during the year, 17 selling prices had

¹Fictitious name used for purpose of disguise.

been used. Sales at 7 prices, however, had constituted 88% of the total sales of the department. On the basis of this tabulation, the merchandise manager adopted 10 prices to which the department was to be restricted. This plan of a few standardized prices was considered especially advantageous from the selling point of view, because confusion in the minds of purchasers was minimized and the store was enabled to carry a wider variety at each price.

A tabulation by colors of the records for 1921 indicated that 75% of the year's sales had been of black and navy blue hats. The merchandise manager decided, consequently, that only one-fourth the total number of hats purchased should be in novelty colors.

On January 15, 1922, the merchandise manager began to plan purchases for the spring of 1922. The buyer already had placed orders for delivery February 1 for hats which the department normally would have sold at 24 prices. The buying plan, therefore, was restricted so that no more hats were to be purchased except those to be sold at the standardized prices adopted for the department. It also was decided to concentrate chiefly on the \$12.50, \$15, and \$18 prices, which past records had shown to be especially popular. Hats previously received were marked at the standard prices. Since the orders for delivery February 1 included 40% black and navy blue hats and 60% novelty colors, the buying plan for February was arranged to increase the percentage of navy blue and black hats, by preventing the purchase of any novelty colors until the proportion of black and navy blue to novelty colors was three to one.

The buying plans for the fall of 1922 likewise were based on a study of sales records classified by prices and colors for each corresponding month of 1921. Since a vogue for small tailored hats had developed, for which the store had not been prepared, the merchandise manager determined to classify the stock further into tailored, dress, and sport hats. The sales during August had been 30% tailored, 60% dress, and 10% sport hats. These percentages were used for September buying plans, and were varied for October on the basis of September sales. It became evident at that time that a classification into youthful styles and matrons' hats could be made to advantage. Of the year's sales, 80% had been in youthful styles and 20% in styles for elderly customers.

In December, 1922, plans were made for the spring season of 1923 on the basis of the classified perpetual inventory records that had been kept during the year. The stocks for the beginning of each month were planned according to prices, colors, types, and ages. The 10 standard prices were retained; 75% of the hats were to be black and navy blue, 15% brown and sand, and 10% light colors to brighten the stock. The restriction on the buyer as to color was the most difficult to enforce; she wished to purchase attractive light-colored hats in excess of the quota, and was prone to overemphasize the demand for novelty colors, especially since some style magazines gave much space to them. As previously, 20% of the hats purchased were matronly types and 80% youthful types. The proportions of tailored, dress, and sport hats were varied, because it had been found that the same percentages did not hold for all months.

The plans for 1923 also contemplated the development of a

TABLE 6
MONTHLY AND SEASONAL SALES, INVENTORIES AT RETAIL PRICES AT FIRST OF EACH MONTH AND SEASONAL RATES OF STOCK-TURN IN MILLINERY DEPARTMENT OF JUSTIN SPECIALTY STORE, FEBRUARY, 1919, TO MAY, 1923

Month	1919		1920		1921		1922		1923	
	Inven- tories	Sales	Inven- tories	Sales	Inven- tories	Sales	Inven- tories	Sales	Inven- tories	Sales
February	\$ 9,857	\$ 6,721	\$17,776	\$ 5,209	\$ 5,125	\$ 3,944	\$ 4,854	\$ 5,155	\$ 4,783	\$ 5,747
March	13,454	11,825	16,487	12,676	7,075	10,777	7,654	9,976	5,026	13,412
April	22,452	10,469	16,682	7,757	7,323	6,650	8,451	9,660	8,727	10,934
May	26,608	7,505	14,434	7,363	10,604	8,091	6,390	8,191	9,884	10,400
June	26,395	8,025	17,394	8,299	11,790	9,001	5,008	8,848		
July	23,583	9,153	12,466	3,870	10,309	5,923	5,236	5,859		
Season		\$53,698		\$45,174		\$44,446		\$47,689		
Stock-turn	2.8*		3.0		5.2		7.7			
August	\$12,654	\$ 7,725	\$11,145	\$ 3,539	\$ 7,722	\$ 7,134	\$ 5,516	\$ 6,648		
September	14,323	11,193	16,665	8,308	10,898	7,755	5,485	13,653		
October	17,271	11,948	14,309	8,977	12,173	10,665	14,968	12,204		
November	14,309	6,851	13,705	5,187	13,372	6,248	12,661	8,876		
December	12,173	4,932	10,256	2,863	8,598	4,417	5,060	3,498		
January†	14,968	5,693	3,407	2,626	4,052	3,949	3,442	5,694		
Season		\$48,342		\$31,500		\$40,168		\$50,573		
Stock-turn	3.3		3.0		4.6		6.8			

*Stock-turn computed as follows:

Sales for season:			
Total of six monthly inventories, February to July	\$122,349		\$53,698
Inventory August 1	12,654		
	7	\$135,003	
Average monthly inventory		\$19,286	53,698
Seasonal rate of stock-turn			2.8

†Of following year.

special style of hat. In 1922 a demand for leghorn hats had developed, and the store had sold more than 300 of them, mostly at \$10. It was decided to experiment in February, 1923, to determine whether a similar popular style could be discovered. A small silk sport hat was selling sufficiently well to warrant the belief that it would continue popular during the spring, and an order for 100 was placed. They were sold readily and it was necessary to reorder the style several times during the season.

The monthly and seasonal sales, inventories at the first of each month, and seasonal rates of stock-turn, from February, 1919, to May, 1923, inclusive, are given in Table 6. The figures after February, 1923, show the results of the efforts of the merchandise manager to plan stocks and purchases.

Although sales were not increased materially in 1922 and the first four months of 1923, stocks were reduced, especially towards the end of each season. This reduction increased the rate of stock-turn and decreased the frequency and extent of mark-downs. The control of stocks according to the four classifications of price, color, type, and age brought slow-selling hats to the attention of the buyer before it was necessary to mark them down.

The figures for gross margin, mark-downs, and rate of stock-turn for 1921 and 1922, before and after the planning of stocks and purchases was introduced, were as presented in Table 7.

The increased rate of stock-turn and the lower ratio of mark-downs were attributed to better control secured through detailed

TABLE 7

PERCENTAGE OF SEASONAL GROSS MARGIN AND MARK-DOWNS, AND
RATE OF STOCK-TURN IN MILLINERY DEPARTMENT
OF JUSTIN SPECIALTY STORE, 1921-1922
(*Net Sales = 100%*)

Particulars	Season, February 1—July 31	
	1921	1922
Gross margin	29.7%	43.7%
Mark-downs	17.0	5.4
Stock-turn (times in 6 months).....	5.2	7.7
Particulars	Season, August 1—January 31	
	1921	1922
Gross margin	24.0%	36.0%
Mark-downs	19.4	8.0
Stock-turn (times in 6 months).....	4.6	6.8

records and systematic planning. The expense percentage remained practically the same during these years; no changes were made in the location of the department; and one less salesperson was used in 1922 and 1923 than in 1921. The buyer's full cooperation had been secured after the results of the experiment became evident.

10. JUSTIN SPECIALTY STORE¹

PIECE RECORD SYSTEM IN SPECIALTY STORE. In August, 1921, in order to control stocks and purchases and to aid buyers in planning, the company decided to install a piece record system in all departments except those selling toilet goods and novelties.

COMPARISON WITH FINANCIAL RECORDS. The piece record system was to be operated independently of the financial records, but the executives were to compare regularly the results of both systems of records.

STOCK-TURN—MARK-DOWNS. The piece record system caused a higher rate of stock-turn, and lowered the total amount of mark-downs.

(1921)

In August, 1921, the management of the Justin Specialty Store undertook to install a piece record system in all the 60 departments, with the exception of toilet goods and novelties. The purpose of the piece record system was to enable the merchandise office to maintain detailed control over the stocks and purchases of the selling departments. It also was designed to render effective aid to the buyers and the merchandise managers in planning sales, purchases, and stocks in advance. By means of more effective planning, the management hoped to decrease mark-downs, increase the rate of stock-turn, and reduce the amount of stock carried without limiting the variety of goods offered for sale.

In each department, a standard range of retail prices was established on the basis of a study of the sales during the preceding year. This study disclosed that the store had been carrying merchandise at many more retail prices than necessary. In one department, for instance, 89 prices within a range of \$50 had been used. In the hosiery department, 60% of the sales

¹Fictitious name used for purpose of disguise.

had been at 10 prices; and in the millinery department 88% of the sales had been made at 7 prices. The next step was to make merchandise divisions or classifications within each selling department. Gowns, for instance, were classified into cotton, velvet, taffeta, canton crêpe, crêpe de chine, chiffon, and satin. Petticoats were classified into satin, jersey, fiber, taffeta, sateen, lingette, satinette, radium, crêpe meteor, and crêpe de chine. In many departments, a further classification was made according to colors, trimming, manufacturers' style numbers, and sizes.

A departmental Piece Ledger was the basis for the new stock record system. The debits to this ledger were the invoices of goods received, and the credits were sales, both in pieces. The Piece Ledger was made up of loose-leaf sheets, one for each price in a department. Each piece record sheet was headed with the department number, the price, and the month. On each sheet were seven groups of columns, one group for each merchandise classification. The headings of the groups of columns in the gown department, for instance, were Cotton, Velvet, Taffeta, Canton Crêpe Crêpe de Chine, Chiffon, and Satin. If there were more than the seven classifications at one time, additional sheets were used. The first column of each group provided space for the number of pieces on hand, the second was for the pieces received, the third for the credits for returned pieces, and the fourth for the number of pieces sold. Down the left-hand side of the sheet were listed the days of the week for each of the four weeks. Entries were made daily in each column under each classification.

The information for the entries of pieces received was secured from a daily "merchandise received report," prepared in the merchandise office from the bills and invoices after they had been checked. This report was headed with the date, department, sheet number, and the name of the clerk filling it out. It provided space for each invoice number, the retail price, the merchandise classification of the units, the number of pieces received, and the extension of the retail price. On this report, any pieces charged back to manufacturers also were entered. The net number of pieces received for each department was debited to the "piece ledger."

The credits to the piece ledger were taken from a daily report

called the "departmental sales summary," which also was prepared in the merchandise office. This report showed, according to retail prices and merchandise classifications, the total number of pieces sold during the day. On the same report, any pieces returned by customers were listed. The sources of data for this departmental sales summary were the daily sales records made out by each salesperson in a department. The daily sales record was headed with the department number, the date, the salesperson's number, and the sheet number. For each sale the salesperson listed the article, fabric, color, size, piece, number sold, and the total amount of the sale. In some departments, duplicate tags or stubs of tickets which were detached from the merchandise when sold took the place of daily sales records.

In addition, two weekly reports were drawn up for each department, a "stock report" and a "sales report." The stock report showed, by prices and merchandise classifications, the number of pieces on hand according to the piece ledger and the number on order, as ascertained from the order file. The sales report gave the sales by prices and merchandise classifications for the week, the month, and the season to date.

From the stock report and the sales report a weekly "complete stock report" was drawn up for each department, which provided for each merchandise classification and for each price the information required by Form 15.

One copy of this report was sent to the president, one to the controller, one to the divisional merchandise manager, and one to the department buyer. The data on sales during the preced-

Liability On hand _____ On order _____ Total _____	Sold Last week _____ This month to date _____ Entire month last year _____ Season to date this year _____ Season to date last year _____	Open-to-Buy This month _____ Next month _____ Second month _____ Third month _____
Sold Last Year Next Three Months Next month _____ Second month _____ Third month _____	Mark-downs This month to date _____ This season to date _____	
Colors Sold This month to date _____ Last month this year _____	Sizes Sold Sizes _____ This month to date _____ Last month this year _____	

Form 15: Complete stock report

ing year were secured from reports in the files. All entries were made in pieces. By comparison on this form of the sales for the current year with the same months of the preceding year, the buyers were provided with information on which to base their purchase plans for the coming three months. The chief value of this report was the picture it presented of the condition of each department.

From this complete stock report, a "recapitulation sheet" was compiled weekly showing the sales by pieces for each merchandise classification and each price in each department during the week. This sheet, which was filed for record, served as the basis on which stocks and purchases could be planned for the following year.

The entire piece record system was operated independently of the financial records of stocks, purchases, and sales, although the two were checked periodically. In some departments additional piece records were kept by buyers for their own guidance in the control of stocks.

After using the piece record system 20 months, the management was well satisfied with it. Five clerks in the merchandise office were able to keep all the records and make out all the reports. The expense involved was only a small proportion of the savings believed to have been effected by the system in reducing the number and amount of mark-downs. During that period, the Justin Specialty Store reduced stocks, increased the rate of stock-turn, and decreased mark-downs appreciably. The merchandise management was enabled to plan sales and purchases more intelligently than ever before, and most of the buyers were in complete harmony with the system and used it regularly as an aid in making purchases. It was found impossible to eliminate all errors, since salespeople during rush periods did not always record sales accurately on the daily sales records, and because occasionally invoices were not recorded on the merchandise received reports. Inventories were taken frequently, however, to remedy discrepancies. In addition, it was possible at stated intervals to compare the results of the piece record system with the inventories as shown by the financial records. Thus, although the merchandise and the financial books were kept separately, each set could be used as a check upon the other.

II. CLARION PHONOGRAPH COMPANY¹

SEASONAL FLUCTUATIONS IN SALES. The sales of the company's product were subject to a marked seasonal variation.

DECREASE OF SALES IN 1921. In 1921 the company's sales decreased and retailers placed orders for immediate requirements only.

DISTRIBUTERS' SALES QUOTAS. To secure early orders and relief from attempted cancelations, the company decided to set a sales quota for each distributor. Each quota was based on the past sales records of the distributors and on an estimate of future business activities.

NON-CANCELATION OF QUOTAS. The quotas, after they had been approved by the distributor, were not subject to cancelation.

(1923)

The output of the Clarion Phonograph Company was sold under its brand name through 21 wholesale distributors, who were given exclusive territory privileges. Each territory included a population of at least 3,000,000. The only phonographs sold by the distributors were Clarion phonographs. In the spring of 1923, the company considered the adoption of a sales quota plan designed to coordinate factory production with distributors' orders.

The company's sales were subject to a marked seasonal variation. The peak ordinarily occurred in the months from October to January. There followed a sharp reduction in April and a small volume during the summer months. Phonographs were manufactured in 11 models which were sold at retail prices ranging from \$50 to \$250, and in supplementary de luxe models priced at from \$300 to \$3,000. Sales for 1923 were estimated at \$4,000,000.

The demand for phonographs was especially sensitive to changes in prosperity. The style factor, furthermore, was an important consideration, because the type of cabinet in demand was influenced by the prevailing mode in home furnishings. In 1922, for example, 60% of the cabinets were finished in red mahogany, but in the first half of 1923, 70% were finished in brown.

A close relationship existed between the company and its wholesale distributors, upon whom it depended to secure dis-

¹Fictitious name used for purpose of disguise.

tribution among retailers. Distributers were selected only after careful examination of their financial responsibility and merchandising ability. Phonographs were delivered to them in car-load lots; terms of payment were 15 days after date of invoice with a 2% cash discount. The wholesalers' functions were as follow: to develop their territories by selling to the maximum number of selected retailers and by inducing the latter to increase sales efforts for the disposal of Clarion phonographs; to receive and pay for phonographs manufactured during the summer months, in order to allow production in the dull season in preparation for fall demand; and to keep complete stocks which were at all times adequate to supply retailers.

In the fall of 1920 the demand for phonographs declined, and requests for cancelations of unfilled orders were received by the Clarion Phonograph Company. It was deemed inadvisable to enforce acceptance of these orders, because the distributers could not sell phonographs to retailers, and, therefore, could not make payments on deliveries. As a result, the company wrote off a serious inventory loss and gradually disposed of the machines at reduced prices.

In 1921 buying by consumers was curtailed, and after retailers disposed of surplus stocks they placed orders only for immediate requirements. In 1922, in view of the experience of 1920, the wholesale distributers waited until fall before placing their orders despite a partial revival of demand. The company was forced to manufacture for stock and to finance the inventory of finished products during the summer. Fall orders, however, exhausted stocks, and it became evident that the demand was in excess of plant capacity.

In April, 1923, the company decided to adopt a plan of sales quotas for distributers in order to secure early orders, to receive payment for phonographs manufactured during the summer, and to prevent shortages in the autumn. A quota for each distributer for the second half of that year was computed on the basis of monthly sales records for previous years. The quotas were adjusted according to the company's estimate of business activity in the fall and the relative prosperity of the various sections of the country in which distributers were located. The normal increase in sales also was taken into consideration. Division of the

total of each quota into the various models was based on records of distributors' previous sales and on the forecast of style tendencies. The total number of phonographs of the combined quotas was compared with plant capacity, and sales plans were adjusted so that they might not exceed the plant capacity.

The quotas thus calculated were submitted to distributors for acceptance. An explanation of the plan was included with the announcement that orders were to be taken on the basis of quotas at the annual convention of distributors in May. Orders placed at that time were to be given preference in delivery to those placed at any subsequent time during the year. Under this arrangement it was specified that 10% of the quantity ordered was to be delivered in each of the months of June, July, and August, and the remaining 70% in the autumn. After confirmation had been sent by the Clarion Phonograph Company, these orders were not subject to cancelation.

One advantage to be gained by the adoption of the plan would be immediate receipt of payment for phonographs manufactured during the summer, because distributors paid invoices within 15 days from their dates in order to secure the 2% cash discounts. The company was assured, moreover, that wholesalers would carry stocks adequate for the requirements of retailers. Accurate planning of production for six months in advance, which was to be made possible, would allow economies in the purchase of raw materials and in plant operation. A shortage could occur only if demand in the autumn exceeded accumulated stocks and factory capacity. Because all distributors would be supplied with the quantities called for by their quotas, no extreme shortage in any one locality was probable. Adjustment of quotas to conform to an estimate of business activity would reduce the hazard of overstocking wholesalers and thus would diminish the possibility of attempted cancelations. Sales were likely to be stimulated because distributors would be influenced to contract for quotas which included an allowance for growth, and because they would be obliged to secure orders from retailers equal to their quotas.

It was not certain that wholesalers would be willing to accept quotas set by the company and to contract for six months' supply in advance. Under the suggested plan, the company undertook the responsibility of careful planning of sales for each distributor.

An erroneous estimate by the company, which resulted in overstocking or undersupplying a distributor, might arouse antagonism when close cooperation was of the highest importance. Relief from cancelations or shortages would depend on the accuracy of estimates. Changes made in quotas by distributors could not be accepted if orders exceeded production capacity, or if the quantity specified was deemed insufficient for expected requirements. Alterations made by the company in orders which were not in agreement with quotas were likely to cause resentment among the wholesalers.

The company's selling problem was not solved fully by disposal of its product to wholesalers. Retailers were unable to buy distributors' stocks unless they could be assured of a demand from consumers. It was necessary for the company, therefore, to assist in the stimulation of retailers' sales.

At the distributors' convention in May, the plan was accepted by the wholesalers. The possibility of a shortage of phonographs in the fall was explained. Wholesalers placed orders which at least equaled the quantities specified in their quotas and in many instances exceeded them. When all orders were received by the company, the total quantity was scaled down so as to conform to the maximum production schedule. In many orders the number of phonographs of various models was changed for the purpose of including a larger proportion of models which were more profitable for both the distributor and manufacturer. After these alterations were made, each order was returned to the wholesaler for final confirmation.

An extensive advertising campaign in newspapers and national magazines was planned for the autumn of 1923 to stimulate consumer demand. In order to enlist the support of retailers the company advised them by mail of the publicity plans and of the advertisements that were to appear. In addition, six men trained in distribution methods were sent out to aid wholesale distributors in securing new customers and to assist retailers in selling. These trained men were expected to cooperate with the wholesalers and to assist them in analyzing the requirements of their territories and the standing of retailers. In addition, the men would acquaint the selected retailers with sales methods that were suitable to the company's products.

12. STOUND EQUIPMENT COMPANY¹

SALES FORECAST. The company sought a forecast of the orders that it would receive from 1923 to 1935.

SECULAR TREND. In order to arrive at the requested forecast, the statistician decided to compute and project the long-time, or secular, trend of sales on the basis of actual orders received in previous years.

WHOLESALE PRICE CHANGES, 1810-1920, AS A BASIS FOR ADJUSTMENT OF FORECAST. A study of wholesale prices during the period 1810-1920 revealed major declines both after the War of 1812 and after the Civil War. Because the statistician was convinced that prices would decline similarly during the period forecasted, he decided to adjust the estimated sales figures for a gradual decline in prices.

(1923)

In 1923 the statistician of the Stound Equipment Company was requested by the management to prepare a forecast of the probable trend of orders to be received, at selling prices, up to 1935. The method which he used in doing this was as follows:

He first obtained the actual figures for orders received for the years 1895 to 1922, which were as listed under the heading Actual Orders, in Table 8, and plotted them on a chart reproduced as Chart 1. The logarithmic scale was used in order that the percentage changes might be emphasized. A forecast necessitated the computation and extension of a long-time, or secular, trend; such a trend would reflect the continuous increase or decrease, over a period of years, which would be caused by factors of more permanent nature than seasonal variations, cyclical influences, or accidental movements. The long-time movement was caused by growth of population and of the extent of business operations, improved industrial technique, gradual exhaustion of natural resources, and other factors which operated from year to year with approximately constant force.

The statistician believed, however, that the influence of changes in price levels should be eliminated before this computation was made. He consequently adjusted the figures, with the exception of those for the years 1895 to 1899, to the 1922 price basis by means of an index of the sales prices of 20 standard articles produced by the company. The growth of orders for the years 1895 to 1899 was so irregular that their inclusion in

¹Fictitious name used for purpose of disguise.

the computation would have influenced the secular trend unduly. The products represented by the articles included in the index composed approximately 50% of the company's total output. This index was used in preference to Bradstreet's or that of the United States Bureau of Labor Statistics, because it was more applicable to the figures of the Stound Equipment Company.

The adjustment was made as follows: On the basis of prices in 1914 as 100%, the index for 1922 of the company's 20 selected standard products was 146.5%. Although there had been moderate price changes from 1900 to 1914, they had occurred at an approximately consistent rate. This period, therefore, was accepted as normal, and the figures for each year in the period

TABLE 8

ADJUSTMENT OF ORDERS RECEIVED, 1900-1922, TO 1922 PRICE LEVEL;
STOUND EQUIPMENT COMPANY

Prices in 1914 = 100

Year	Actual Orders	Price Indexes	Price Index for 1922	Orders Adjusted to 1922 Price Level*
1895	\$ 1,240,000	.....	.....	.....
1896	1,000,000	.....	.....	.....
1897	1,320,000	.....	.....	.....
1898	1,590,000	.....	.....	.....
1899	2,500,000	.....	.....	.....
1900	2,629,500	100	146.5	\$ 3,852,200
1901	3,377,200	100	146.5	4,947,600
1902	3,671,100	100	146.5	5,378,200
1903	3,537,800	100	146.5	5,182,900
1904	3,192,500	100	146.5	4,677,000
1905	4,766,000	100	146.5	6,982,200
1906	5,756,300	100	146.5	8,433,000
1907	5,258,000	100	146.5	7,703,000
1908	3,822,600	100	146.5	5,600,100
1909	4,825,000	100	146.5	7,068,600
1910	6,239,900	100	146.5	9,141,500
1911	5,972,300	100	146.5	8,749,400
1912	8,341,000	100	146.5	12,219,600
1913	9,001,800	100	146.5	13,187,600
1914	6,386,200	100	146.5	9,355,800
1915	7,612,100	99.7	146.5	11,185,300
1916	13,544,200	119.6	146.5	16,590,500
1917	20,703,300	146.6	146.5	20,689,200
1918	18,961,700	167.5	146.5	16,584,400
1919	18,729,100	165.2	146.5	16,609,000
1920	25,916,500	184.2	146.5	20,612,200
1921	12,994,500	168.9	146.5	11,271,100
1922	19,049,100	146.5	146.5	19,049,100

*Calculations as shown by following examples:

1914. $\$6,386,200 \div 100 = 63,826 \times 146.5 = \$9,355,800$

1918. $\$18,961,700 \div 167.5 = 113,204.17 \times 146.5 = \$16,584,400$

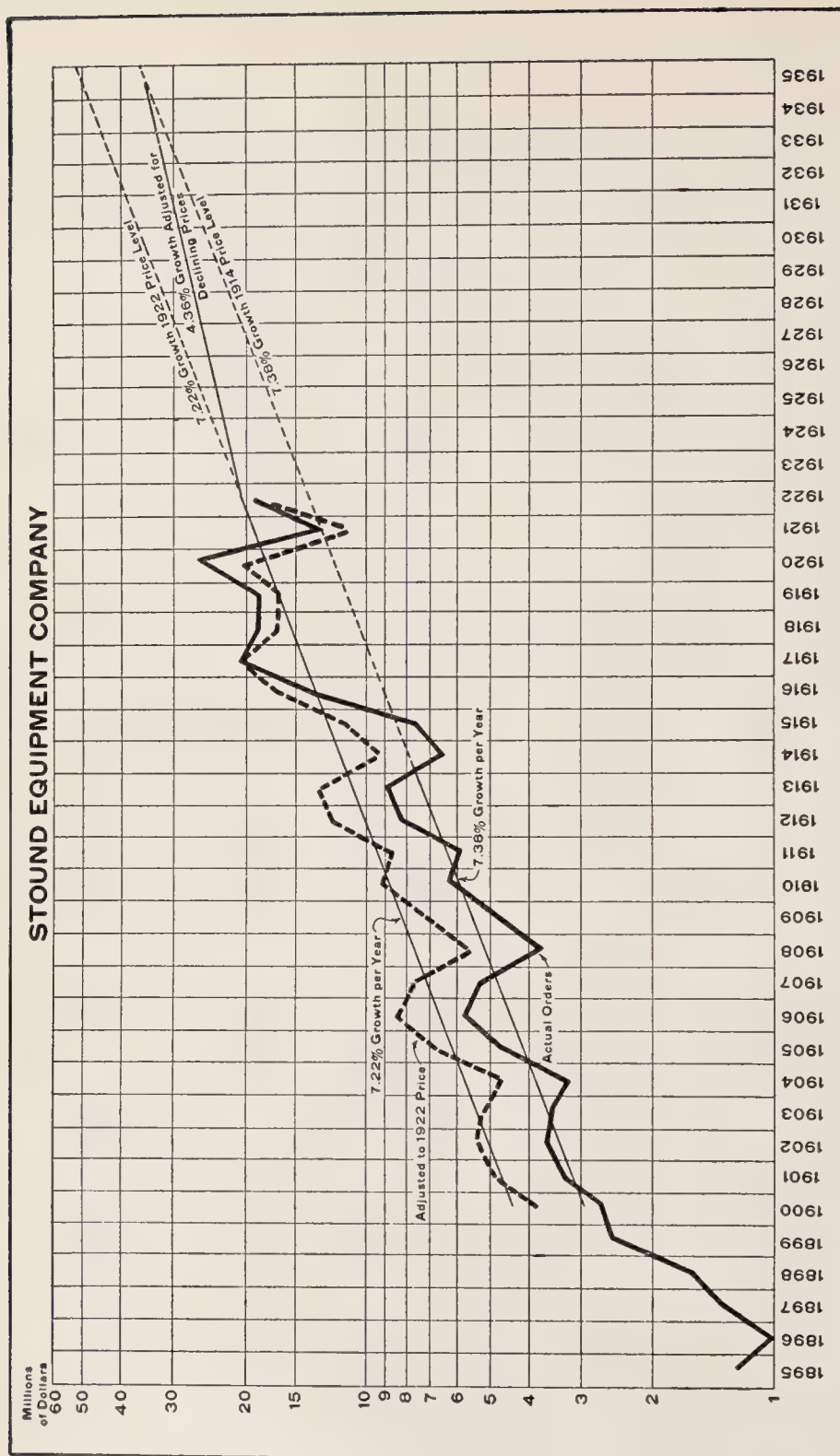


Chart 1: Forecast of annual orders, 1923-1935, based on actual orders, 1895-1922, adjusted for secular trend and price changes

were adjusted in the same way as those for 1914. The figures for orders received during the years 1900 to 1914 were divided by 100 and multiplied by 146.5. The sales figures for 1915 to 1922 were divided by their respective index numbers and reduced thereby to the 1914 price basis, and then were raised to the 1922 price basis by multiplication by 146.5. For example, for the year 1918 the actual figure for orders, \$18,961,700, was divided by 167.5, the index number on the basis of 1914 as 100, and the quotient then was multiplied by 146.5, the 1922 index number. The result, \$16,584,400 was the adjusted figure for orders for 1918. The price indexes used and the adjusted figures for orders are shown in Table 8.

After the adjusted figures had been obtained, the statistician decided to compute a trend line for them according to the least squares method. The line, consequently, would be drawn in such a way that the square of the deviations of the adjusted figures from the line of trend, as measured on the ordinates, always would be a minimum. As shown in Table 9, the adjusted orders received from 1900 through 1922 were listed; the logarithms of these figures were tabulated in column Y.

The sum of the Y items, divided by the number of those items, would equal the mid-point of the series. Hence the mid-point would be determined by the formula:

$$M = \frac{\sum Y}{n}$$

Column X contains a scale of numbers representing the distance of each year's orders from the mid-point of the series of orders. The formula then used was:

$$S = \frac{\sum XY}{\sum X^2}$$

In this formula, "S" equaled the slope of the line of least squares or the annual increment. The result of the computation was a trend line on which the amount of orders showed a yearly increase of 7.22% compounded annually.

The statistician then extended the estimates on the basis of the calculations in Table 9, to include the years 1923 to 1935. To obtain the logarithms of the secular trend of adjusted orders, for each year of the forecast, the statistician increased the logarithm for 1922, 7.3070, successively by the annual incre-

TABLE 9

COMPUTATION OF SECULAR TREND OF ORDERS RECEIVED, 1900-1922, ADJUSTED TO 1922 PRICE LEVEL, STOUND EQUIPMENT COMPANY

Year	Orders Adjusted to 1922 Price Level*	Y Logarithms of Adjusted Orders	X Scale of Time Variations from Mid-Point	XY	X ²	SECULAR TREND OF ORDERS ADJUSTED TO 1922 PRICE LEVEL	
						Logarithmst	Amounts Annual Increase =7.22%
1900	\$ 3,852,200	6.5857	-11	-72.4427	121	6.6409	\$ 4,374,000
1901	4,047,600	6.6044	-10	-66.9440	100	6.6712	4,609,000
1902	5,378,200	6.7306	-9	-60.5754	81	6.7015	5,029,000
1903	5,182,900	6.7146	-8	-53.7168	64	6.7317	5,301,000
1904	4,677,000	6.6700	-7	-46.6900	49	6.7620	5,781,000
1905	6,982,200	6.8440	-6	-41.0640	36	6.7923	6,199,000
1906	8,433,000	6.9260	-5	-34.6300	25	6.8226	6,647,000
1907	7,703,000	6.8866	-4	-27.5464	16	6.8528	7,125,000
1908	5,600,100	6.7482	-3	-20.2446	9	6.8831	7,640,000
1909	7,068,600	6.8493	-2	-13.6986	4	6.9134	8,192,000
1910	9,141,500	6.9610	-1	-6.9610	1	6.9437	8,784,000
1911	8,749,400	6.9420	0	-444.5135	0	6.9740	9,418,000
1912	12,219,600	7.0871	1	+7.0871	1	7.0042	10,097,000
1913	13,187,600	7.1202	2	+14.2404	4	7.0345	10,827,000
1914	9,355,800	6.9711	3	+20.9133	9	7.0648	11,609,000
1915	11,185,300	7.0486	4	+28.1944	16	7.0951	12,448,000
1916	16,590,500	7.2198	5	+36.0990	25	7.1253	13,345,000
1917	20,689,200	7.3157	6	+43.8942	36	7.1556	14,309,000
1918	16,584,400	7.2197	7	+50.5379	49	7.1859	15,343,000
1919	16,609,000	7.2203	8	+57.7624	64	7.2162	16,452,000
1920	20,612,200	7.3141	9	+65.8269	81	7.2465	17,640,000
1921	11,271,100	7.0520	10	+70.5200	100	7.2767	18,910,000
1922	19,049,100	7.2799	11	+80.0789	121	7.3070	20,277,000
Totals=		160.4009		+475.1545 -444.5135 +30.6410	1,012		

*From Table 8

†Determined by subtracting 0.0303, the annual increment, successively from the mid-point, 6.9740, for years prior to 1911 and adding it successively for years subsequent to 1911.

Logarithmic mid-point

6.9740

$$M = \frac{\sum Y}{n} = \frac{160.4009}{23} = 6.9740$$

Logarithmic annual increment

0.0303

$$S = \frac{\sum XY}{\sum X^2} = \frac{30.6410}{1012} = 0.0303$$

ment, 0.0303. The resulting logarithms were converted into estimated orders, as indicated in Table 10. The projected line of secular trend, showing an annual increase of 7.22% in orders, was plotted on Chart 1.

TABLE 10

EXTENSION, 1923-1935, OF SECULAR TREND OF ACTUAL ORDERS
RECEIVED BY STOUND EQUIPMENT COMPANY, 1900-1922,
ADJUSTED TO 1922 PRICE LEVEL

Year	Logarithms*	Amounts
1922	7.3070*	
1923	7.3373	\$21,742,000
1924	7.3676	23,313,000
1925	7.3978	24,992,000
1926	7.4281	26,798,000
1927	7.4584	28,734,000
1928	7.4887	30,811,000
1929	7.5189	33,029,000
1930	7.5492	35,416,000
1931	7.5795	37,975,000
1932	7.6098	40,719,000
1933	7.6401	43,662,000
1934	7.6703	46,806,000
1935	7.7006	50,188,000

*Projection accomplished by successive additions of the logarithmic increment, 0.0303, to the mid-point figure, 6.9740, as shown in Table 9.

In the statistician's opinion, the war-time boom might have had a misleading effect not only on the price situation but also on the volume of orders. For that reason, he disregarded the years 1915 to 1922, and computed a second secular trend by the same method on the basis of actual orders received from 1900 to 1914, inasmuch as he already had decided that the trend exhibited in that period was normal. This resulted in a trend line showing a yearly increase of 7.38%, compounded annually, which he also projected to 1935 on Chart 1.

As a check upon his work to this point, the statistician read from Chart 1 the figures from 1923 to 1930, as obtained by the projection of the trend for the period from 1900 to 1914, and multiplied them by the index number, 146.5, in order to adjust them to the 1922 price level. He compared the resulting figures,

shown in Table 11, with those obtained by the projection of the trend based on the period from 1900 to 1922.

TABLE 11
COMPARISON OF TWO SERIES OF ESTIMATED ORDERS TO BE RECEIVED,
1923-1930, BY STOUND EQUIPMENT COMPANY

Year	AMOUNTS READ FROM EXTENSION OF SECULAR TREND OF ACTUAL ORDERS RECEIVED, 1900-1914			Amounts Computed from an Extension of Secular Trend of Actual Orders Received, 1900-1922, Adjusted to 1922 Price Level*
	Readings from Chart 1 Trend Line with 7.38% Yearly Increase	Index of 1922 Price Level	Readings Adjusted to 1922 Price Level	
1923	\$15,039,000	146.5	\$22,033,000	\$21,742,000
1924	16,145,000	146.5	23,652,000	23,313,000
1925	17,336,000	146.5	25,397,000	24,992,000
1926	18,616,000	146.5	27,272,000	26,798,000
1927	19,990,000	146.5	29,285,000	28,734,000
1928	21,466,000	146.5	31,447,000	30,811,000
1929	23,050,000	146.5	33,768,000	33,029,000
1930	24,751,000	146.5	36,260,000	35,416,000

*Obtained from Table 10.

Since the estimates in the two series appeared essentially the same, the statistician next compared his two lines of secular trend, which he discovered to be approximately parallel. He found, furthermore, that for the year 1922 the secular trend of the orders adjusted to the 1922 price level was \$20,277,000, which was 45% above \$14,002,000, the reading from the projection of the secular trend of the actual orders of the period 1900 to 1914. This agreed approximately with the difference between the 1914 and 1922 price levels as shown by the index number 146.5.

The statistician wished to make allowance also for a possible continued decline in prices. He consequently examined the trend of commodity prices from 1810 to 1920, as shown in Chart 2, on page 65. This chart was prepared from the index numbers for wholesale prices, for the years 1810 to 1920, with prices in 1914 taken as 100%; the index numbers are given in Table 12. They constitute a continuous index number for wholesale prices, which was constructed by fitting together, on as nearly comparable a basis as possible, four independent and overlapping records of wholesale prices. From 1810 to 1825 the numbers were obtained from a record of Boston prices made by Alvin H. Hansen; from 1825 to 1860 they were computed from quotations of prices in

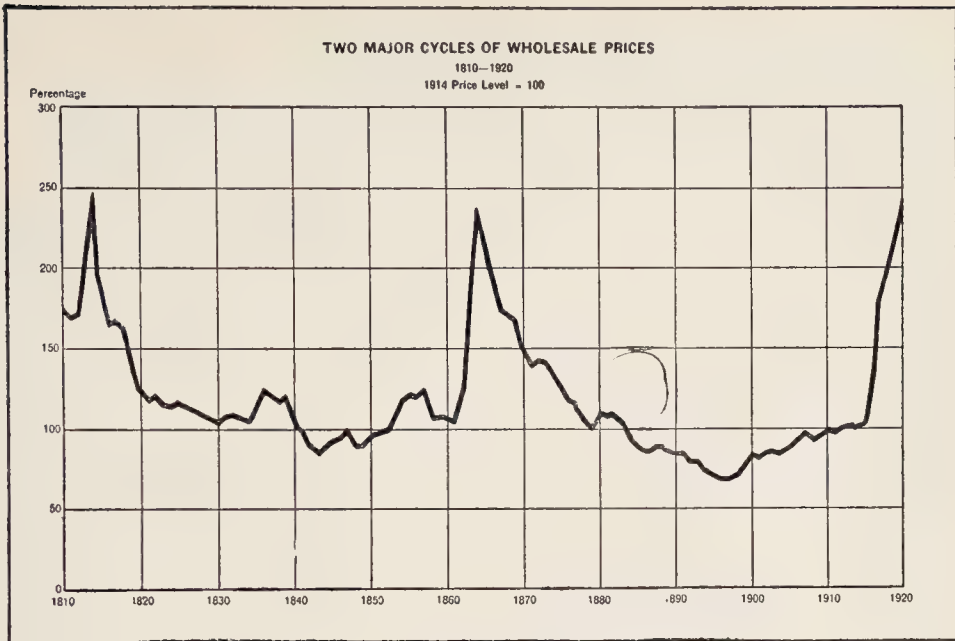


Chart 2: Movement of wholesale prices

New York in a report of Secretary Chase of the Federal Treasury in 1863; from 1860 to 1890 they were obtained from prices quoted in a report of the Finance Committee of the United States Senate in 1893; and from 1890 to 1920 they were the current wholesale price index numbers of the United States Bureau of Labor Statistics.

From Chart 2, the statistician observed that both after the War of 1812 and after the Civil War there had been a rapid decline of prices during the first two to six years. This was followed by a gradual downward movement extending for about 30 years after the war-time peak; normal was reached, however, approximately 15 years after the peak. Since he was convinced that the price situation in 1922 presented a close analogy to the price situations following the War of 1812 and the Civil War, and that consequently the movement of prices would be similar to the movements which had occurred in the past, he assumed that the price level again would reach normal 15 years after the peak, or in 1935. He decided to make an adjustment, therefore, in his estimates to compensate for declining prices. Since he had determined upon the 1914 price level as normal, he reasoned that the probable volume of orders at selling price in 1935

TABLE 12
INDEX NUMBERS FOR WHOLESALE PRICES, 1810-1920*
Prices in 1914 100

Year	Index Numbers	Year	Index Numbers	Year	Index Numbers	Year	Index Numbers
1810.....	173	1840.....	103	1870.....	148	1900.....	83
1811.....	168	1841.....	99	1871.....	137	1901.....	81
1812.....	170	1842.....	88	1872.....	142	1902.....	84
1813.....	198	1843.....	84	1873.....	141	1903.....	85
1814.....	247	1844.....	88	1874.....	134	1904.....	84
1815.....	194	1845.....	93	1875.....	126	1905.....	87
1816.....	165	1846.....	95	1876.....	117	1906.....	92
1817.....	167	1847.....	100	1877.....	114	1907.....	97
1818.....	163	1848.....	87	1878.....	103	1908.....	92
1819.....	141	1849.....	89	1879.....	99	1909.....	95
1820.....	123	1850.....	95	1880.....	110	1910.....	99
1821.....	118	1851.....	97	1881.....	107	1911.....	96
1822.....	121	1852.....	98	1882.....	109	1912.....	100
1823.....	115	1853.....	109	1883.....	103	1913.....	101
1824.....	114	1854.....	118	1884.....	93	1914.....	100
1825.....	115	1855.....	121	1885.....	87	1915.....	101
1826.....	113	1856.....	119	1886.....	85	1916.....	124
1827.....	111	1857.....	125	1887.....	85	1917.....	176
1828.....	108	1858.....	105	1888.....	88	1918.....	196
1829.....	107	1859.....	107	1889.....	85	1919.....	212
1830.....	103	1860.....	105	1890.....	84	1920.....	244
1831.....	107	1861.....	103	1891.....	84		
1832.....	108	1862.....	122	1892.....	79		
1833.....	107	1863.....	168	1893.....	79		
1834.....	104	1864.....	237	1894.....	72		
1835.....	111	1865.....	218	1895.....	70		
1836.....	125	1866.....	194	1896.....	67		
1837.....	120	1867.....	174	1897.....	67		
1838.....	116	1868.....	170	1898.....	69		
1839.....	121	1869.....	166	1899.....	76		

*Material taken by company from *The Annalist*, New York, Monday, April 11, 1921, p. 425.

would be shown by the projection to 1935 of the trend for the period 1900 to 1914. To indicate the probable orders to be received during the period from 1922 to 1935, therefore, the statistician drew on Chart 1 a line connecting the 1922 point on the 1900-1922 trend line with the 1935 point on the projection of the 1900-1914 trend line. It seemed evident that by 1922

TABLE 13
FORECAST OF ANNUAL ORDERS TO BE RECEIVED, 1922-1935
BY STOUND EQUIPMENT COMPANY

Year	Amounts of Orders	Year	Amounts of Orders
1923	\$21,180,000	1930	\$28,500,000
1924	22,080,000	1931	29,700,000
1925	23,070,000	1932	31,050,000
1926	24,050,000	1933	32,450,000
1927	25,100,000	1934	33,800,000
1928	26,180,000	1935	35,300,000
1929	27,300,000		

the period of rapid price decline already had ended. From the trend line drawn to compensate for the probable decline in prices from 1922 to 1935, the statistician read an estimate of the orders to be received. From these figures, the annual increase was found to approximate 4.36%. Table 13 contains the forecast of orders to be received yearly, from 1922 to 1935, as determined by the readings from Chart 1.

13. TESSAT ELECTRICAL COMPANY¹

MARKET ANALYSIS. In 1923 the Dunstan Manufacturing Company had to determine what states offered the best markets for the small unit electric lighting plants made by one of its customers, the Tessat Electrical Company.

FARM STATISTICS. The statistician learned that the greatest sales were possible in areas without central electric stations, and decided to classify the states on the basis of farm statistics.

(1923)

Early in 1923 the statistician in the sales department of the Dunstan Manufacturing Company, which produced one of the parts used in the small unit electric lighting plants manufactured by the Tessat Electrical Company, was requested to make a market survey for the latter company. He was to outline the territories which offered the best markets for the product of the Tessat Electrical Company and to set quotas for the sales of the product in these territories. There was a time limit of six days in which to make the analysis.

The following questionnaire, which had been submitted to an official of the Tessat Electrical Company and returned with the answers indicated, was the initial basis on which the statistician had to work.

QUESTIONNAIRE

Information Desired on Which to Base Market Survey

NAME: Tessat Electrical Company.

ADDRESS:

HISTORY: Incorporated January, 1920; capital stock \$1,000,000.

PRODUCTS: Small unit lighting plants.

¹Fictitious name used for purpose of disguise.

PRODUCT TO BE FEATURED: One-kilowatt model.

CONSTRUCTION: Four-cycle, single-cylinder, water-cooled engine; direct connection with generator.

USES: To generate electricity.

UNIT OF SALE: Single plant.

QUALITY: As good as we can make it.

TOTAL ANNUAL SALES: \$300,000—1922.

ESTIMATED SALES OF COMPETITORS: (No answer)

AVERAGE LENGTH OF SERVICE: Plants should last from 8 to 15 years.

TOTAL NUMBER OF CUSTOMERS: (No answer)

CLASSIFY CONSUMERS ACCORDING TO LOCATION, INCOME, AND CLASS: Communities where there are no central stations; small towns, farms, and boats.

GREATEST SALES RESISTANCE:

1. Disturbed condition of the market; no standards established.
2. Poor dealer cooperation.
3. Financial condition of farmers.

DISTRIBUTION: Company so far has used distributors who selected the dealers.

BRANCHES: No company branches established.

DISTRIBUTERS: Duluth, Little Rock, Mobile, New Orleans, Rochester (New York), Boston.

RETAILERS: At present about 92.

ATTITUDE OF TRADE TOWARD PRODUCT: Favorable but demand proof of dependability.

REASON: Failure of several competitors.

ATTITUDE OF TRADE TOWARD HOUSE: Mainly satisfactory.

REASON: (No answer)

TOTAL ANNUAL SALES OF OTHER PRODUCTS: No great quantity; for the most part repairs.

ORGANIZATION OF SALES FORCES: Sales manager; five service men.

NUMBER OF SALESMEN: Eight.

PAYMENT OF SALARIES: Guaranteed salary plus a bonus for exceeding quota.

OUTLINE OF TERRITORY:

1. { New York,
Pennsylvania.
2. { Gulf States—Texas, Louisiana,
Mississippi, Alabama, Florida.

-
-
3. { Iowa, Missouri,
 { Illinois, Nebraska.
 4. { Kansas, Western Missouri,
 { Oklahoma.
 5. { Central States—Ohio,
 { Michigan, Indiana, Wisconsin.

TERRITORIES VISITED HOW OFTEN: Monthly.

IMPORTANT COMPETITORS: (Several were named.)

LEADING BRANDS—QUALITY—SALES:

1. (Named.)
2. (Not known.)

PRINCIPAL TERRITORIES OF COMPETITORS: National.

RELATION OF COMPETITORS WITH TRADE: (Personal comments given.)

DISTRIBUTION METHODS OF COMPETITORS: Distributers and dealers.

HISTORY OF ADVERTISING EXPERIENCE: Advertisements to dealers. Stirred up interest and reduced traveling expense. Doubtful if it paid. Circulars to prospects in all the territory. Difficult to evaluate results.

EFFECT ON SALES: Fairly satisfactory.

ADVERTISING APPROPRIATION: \$600 monthly for all forms of advertising.

SUBMIT SPECIMENS OF ADVERTISING: (Folders, booklets, and broadsides were received.)

COMMENTS: (None)

The statistician of the Dunstan Manufacturing Company, with this questionnaire as a background and with the aid of additional data which he secured, made an analysis of the market of the Tessat Electrical Company.

He first studied the factors which controlled the sale of the Tessat Electrical Company's product, and selected the following seven as the most important: the percentage of farm income of a state to total farm income of the United States; the average income per farmer; the number of farms; the number of farm light units sold; the number of unwired communities; the number of farms operated by owners or managers; and the number of acres of improved land. Data by which each state could be tested according to these seven factors were obtained from the National Bureau of Economic Research, the Electrical Survey

TABLE 14

RANKING NUMBERS OF STATES LEADING IN IMPORTANCE AS MARKETS FOR TESSAT ELECTRICAL COMPANY'S PRODUCTS,
ACCORDING TO EACH OF SEVEN FACTORS USED IN MARKET SURVEY

Rank- ing Num- bers of States	FACTORS							Rank- ing Num- bers of States
	1	2	3	4	5	6	7	
	Percentage of State Farm Income to Total U. S. Farm Income	Average Income per Farmer	Number of Farms	Farm Light Units Sold (to and including 1920)	Unwired Communities	Farms Operated by Owner or Manager	Improved Land in Acres (Millions)	
1	Tex.	Cal.	Tex.	Penn.	Penn.	Tex.	Tex.	1
2	Ia.	Nev.	Ga.	N. Dak.	Tex.	Mo.	Kan.	2
3	Ill.	Ariz.	Miss.	Tex.	Ky.	O.	Ia.	3
4	O.	Ia.	279,101	32,000	Va.	Ky.	Ill.	4
5	Okla.	Neb.	298,5	30,530	O.	Wis.	Mo.	5
6	Cal.	Ill.	2,928	30,200	N. Y.	Mich.	N. Dak.	6
7	Ga.	S. Dak.	2,657	18,700	N. Y.	Penn.	Neb.	7
8	Kan.	Wash.	2,657	15,300	O.	N. Y.	Minn.	8
9	Mo.	Kan.	2,490	11,250	Tenn.	N. Y.	O.	9
10	N. Car.	Okla.	2,417	19,580	Cal.	N. Car.	S. Dak.	10
11	Ind.	Okla.	2,255	8,940	Cal.	Tenn.	Okla.	11
12	Neb.	N. Dak.	2,227	8,530	Ala.	Ind.	Ind.	12
13	Minn.	Ida.	2,218	7,440	W. Va.	Va.	Ky.	13
14	Wis.	Tex.	2,192	7,320	Ill.	Ill.	N. Y.	14
15	S. Car.	Minn.	2,030	7,240	Ark.	Minn.	Ga.	15
16	N. Y.	Utah	1,982	6,770	Mich.	Ia.	Mich.	16
17	Mich.	Wisc.	1,875	6,700	Miss.	Ark.	Wisc.	17
18	Penn.	Ind.	1,863	6,500	Wisc.	Ala.	Cal.	18
19	Miss.	O.	1,834	6,460	Ind.	Ga.	Penn.	19
20	Ark.	Ore.	1,819	5,330	Ind.	Kan.	Tenn.	20
21	Ky.	N. Y.	1,813	4,320	Fla.	Okla.	Mont.	21
22	Tenn.	Del.	1,807	4,250	Wash.	Miss.	Ala.	22
23	Ala.	S. Car.	1,780	3,200	Ga.	W. Va.	Va.	23
24	Va.	Mich.	1,712	2,980	Neb.	Neb.	Miss.	24
25	S. Dak.	Me.	1,539	2,860	S. Car.	S. Car.	Ark.	25
26	N. Dak.	Mo.	1,532	2,850	Okla.	La.	N. Car.	26
27	Wash.	Wyo.	1,504	2,690	Kan.	N. Dak.	Colo.	27
28	La.	Penn.	1,493	2,600	Okla.	Wash.	Wash.	28
29	Colo.	N. Car.	1,482	2,670	Md.	Mont.	S. Car.	29
			1,454	2,510	Ia.			
Total of 29 states							92.88%	

of the World, 1920, and the United States Census for 1920. At first, all 48 states and the District of Columbia were studied as markets for unit electric lighting plants. Under each of the seven factors was listed each state in the order of its importance. Table 14 then was prepared; each column contained the 29 states which ranked highest under that heading. From each column, the lowest 19 states and the District of Columbia were omitted. No satisfactory method of assigning weights to the factors was devised.

Next, the statistician decided to determine a single percentage figure to express the relative value of each state as a market. The figure for each state was calculated in the following manner: The theoretically perfect value of a state was taken as zero, and the relative value of a state, therefore, was determined by the degree to which the sum of the seven numbers which indicated the state's rank under each factor heading approached zero. The lowest figure actually obtainable, consequently, was seven, which would have required that a state rank first under each factor. The poorest possible market would have been a state which ranked last, or forty-ninth, under each of the seven factors. The sum of the ranking numbers of such a state would have been 49 multiplied by 7, or 343. In order to allow for the difference between the theoretically perfect market and the actual best possible market, the statistician added 7 to 343 and took the result, 350, as indicative of the theoretically poorest market. This he represented by 0%, and the theoretically perfect market, 0, by 100%. He divided 100% by 350 and obtained 0.286% which indicated the amount to be deducted from 100% for each rank number unit to obtain the percentage ratings of the various states.

Texas, for example, was first in relative value; the sum of its ranking numbers was 23, the lowest total obtained. To obtain the value of the Texas market in relation to the theoretically perfect market, the statistician multiplied 23 by 0.286% and subtracted the result, 6.6%, from 100%. Although this method was questioned by one of the statistician's subordinates, who insisted that it was too complicated, the percentage ratings for the other states were figured in the same way. The relative ranking numbers of the leading 29 states according to each of the seven factors, the sums of the ranking numbers, and the figures for the

percentage ratings of those states as markets, were arranged as in Table 15.

TABLE 15

RANKING NUMBERS OF LEADING 29 STATES BY INDIVIDUAL FACTORS;
TOTALS OF RANKING NUMBERS AND PERCENTAGE RATINGS,
RELATIVE TO THEORETICALLY PERFECT MARKET, OF
THOSE STATES AS MARKETS FOR TESSAT
ELECTRICAL COMPANY'S PRODUCTS

STATES		RANKING NUMBERS OF EACH OF 20 LEADING STATES ACCORDING TO 7 MARKET SURVEY FACTORS							Totals of Ranking Numbers	Per-centage Ratings as Mkts. (Theoretically Perfect Market = 100%)
Final Order of Im-portance	Name	Factors								
		1 Per-centage of Farm Income in State to Total Farm Income in U. S.	2 Average Income per Farmer	3 Number of Farms	4 Farm Light Units Sold (to and including 1920)	5 Un-wired Com-munities	6 Farms Oper-ated by Owner or Manager	7 Im-proved Land in Acres		
1	Tex.	1	14	1	3	2	1	1	23	93.4
2	O.	4	19	7	5	5	3	9	52	85.2
3	Ill.	3	6	10	7	13	13	4	56	84.0
4	Ia.	2	4	12	6	29	15	3	71	79.7
5	Mo.	9	27	6	18	9	2	5	76	78.2
6	Penn.	18	29	13	1	1	7	19	88	74.8
7	N. Y.	16	21	16	11	6	8	14	92	73.7
8	Ind.	11	18	14	8	18	11	12	92	73.7
9	Kans.	8	9	22	10	27	19	2	97	72.2
10	Wisc.	14	17	19	12	17	5	17	101	71.1
11	N. C.	10	29	5	17	7	9	26	103	70.0
12	Ky.	21	39	4	19	3	4	13	103	70.0
13	Minn.	13	15	21	13	20	14	8	104	69.7
14	Mich.	17	25	15	15	15	6	16	109	68.8
15	Ga.	7	31	2	14	23	18	15	110	68.6
16	Neb.	12	5	24	9	31	24	7	112	68.0
17	Okla.	5	11	18	21	26	20	11	112	68.0
18	Cal.	6	1	25	32	10	22	18	114	67.4
19	N. Dak.	26	12	27	2	32	27	6	132	62.2
20	Tenn.	22	40	9	24	8	10	20	133	62.0
21	Va.	24	36	20	16	4	12	23	135	61.4
22	S. Dak.	25	7	28	4	33	30	10	137	60.8
23	Ark.	20	35	11	22	14	16	25	143	59.2
24	Miss.	19	38	4	31	16	21	24	153	56.2
25	Ala.	23	42	8	30	11	17	22	153	56.2
26	S. C.	15	24	17	20	25	29	25	155	55.7
27	Wash.	27	8	29	23	22	28	28	165	52.8
28	Colo.	29	10	30	27	24	32	27	178	49.1
29	La.	28	37	23	28	19	26	30	191	45.1

On the basis of the percentage ratings shown in Table 15, the following states were recommended as the best markets for the Tessat Electrical Company: Texas, Ohio, Illinois, Iowa, Missouri, Pennsylvania, New York, Indiana, Kansas, Wisconsin, North Carolina, Kentucky, Minnesota, Michigan, Georgia, Nebraska, Oklahoma, California, North Dakota, Tennessee, Virginia, and South Dakota. These varied somewhat from the list of states in which the company had concentrated its sales efforts in the

past. It was pointed out, however, that the states recommended received 93% of the total state farm income of the United States; contained 91% of all the farms in the United States, 87% of all farms in the United States operated by owners or managers, and 90% of the improved land acreage; and included 94% of all farm lighting plants sold in the United States and 85% of the unwired communities in the United States. The average income of the farmers in these states was \$1,804, as compared with \$1,682, the average farm income for the United States. It was suggested that the existing sales territories be reorganized and new wholesale centers established.

A method of determining sales quotas for each of the states was recommended. The seven factors were to be taken as fundamental bases for estimating sales quotas; the final quotas, however, were to be interpreted in the light of competition, sales representation, and local business conditions. The following explanation of the method of determining the quotas was given:

Total the percentage ratings of all the states in which Tessat light units have been sold; total the number of units sold in each state and add to the total a percentage to allow for improved production and general business conditions; divide the total unit sales by the total percentage rating to find the number of units likely to be sold for each 1% rating. Then, in order to find the quota for a specific state, multiply the result of this last division by the percentage rating for that state. The figure thus obtained will be the sales quota for that state.

To provide the Tessat Electrical Company with an example of this method of setting sales quotas, the statistician of the Dunstan Manufacturing Company calculated hypothetical quotas for five states, according to the process in Table 16.

Other information included in the report comprised the following: a table showing by states the number of towns under 1,000 population, from 1,000 to 2,000, from 2,000 to 3,000, and from 3,000 to 5,000; a table showing by states the number of general stores, agricultural implement dealers, and automobiles owned by farmers; a table giving by states the number of dwellings not reached by central stations and the number of rural dwellings; two charts showing the total purchases and sales of farmers; a map illustrating the position of distributors with relation to existing sales territories; a list of the 50 competitors of the Tessat Electrical Company; a list of the principal wholesale centers in

TABLE 16
SAMPLE CALCULATION OF TOTAL AND STATE SALES QUOTAS,
TESSAT ELECTRICAL COMPANY

States	Company's Sales, 1922* (Unit of Product)	State Percentage Ratings
Texas	1,000	93.4
Ohio	1,000	85.2
Illinois	1,000	84.0
Iowa	840	79.7
Missouri	600	78.2
Total	4,440	420.5
Total sales in units .....4,440		
Expected percentage of		
increase .....15% 666		
Total adjusted units.....5,106		
Total adjusted units.....5,106		
Total state percentage ratings 420.5 = 12.143 units per 1% rating		

States	State Percentage Ratings	Units per 1% Rating	State Quotas, Units of Product (obtained by multi- plication of state percentage ratings by units per 1% rating)
Texas	93.4	12.143	1,134
Ohio	85.2	12.143	1,035
Illinois	84.0	12.143	1,020
Iowa	79.7	12.143	968
Missouri	78.2	12.143	949
Total	420.5		5,106

*Not actual sales; used to illustrate method.

the United States; and a detailed study of one state, which was to suggest more detailed analyses of each state which the Tessat Electrical Company could make for itself in the future. Because of limited time the statistician was unable to make deductions and estimates from all these figures submitted.

It was explained that the farm market had been analyzed to the exclusion of other possible markets because it contained the largest number of prospective customers. Other possible purchasers of the plant in unwired communities were banks, stores, schools, churches, garages, theaters, fraternal halls, hotels, resorts, small industries, mines, and camps.

The head of the marketing department of the Dunstan Manufacturing Company approved the survey and forwarded it to the

Tessat Electrical Company, which accepted it and, accordingly, planned an extensive advertising campaign.

14. BUCK ELECTRICAL COMPANY¹

FORECAST OF WEEKLY RATE OF PRODUCTION. The company sought an estimate of the probable average weekly output of electrical apparatus from the company's machine shop during the first six months of 1923.

BOOKED ORDERS. The statistician made an analysis of the total orders booked by the sales department for the first six months of 1923.

USE OF COST RECORDS. The statistician compared, with past cost records, the types and kilowatt capacities of the apparatus already booked for the six months' period. At the previous cost rate, total direct labor costs for the six months' period would equal 28 weeks' work. The capacity of the apparatus was 803,000 kilowatts. On this basis, the statistician decided that the normal weekly output should be machines of 28,679 kilowatt capacity.

(1922)

In December, 1922, the statistician of the Buck Electrical Company, at the request of the superintendent, prepared and submitted an estimate of the weekly normal rate of production in the machine shop for the first six months of 1923.

An analysis of the total bookings reported by the sales department for the first six months of 1923 indicated that 195 units of alternating current apparatus with an approximate average capacity of 3,500 kilowatts, 55 units of direct current apparatus with an approximate average capacity of 1,100 kilowatts, and 52 units of synchronous converters with an approximate average capacity of 1,200 kilowatts were to be manufactured.

Experience proved that the direct labor cost per kilowatt for each type of apparatus, adjusted for changes in the wage scale, in general varied inversely with the average kilowatt capacity. The average kilowatt capacity of the three types of apparatus to be produced during the following period was compared, therefore, with the average kilowatt capacity of the machines produced in the individual months of the previous year, as shown by the statistical records. For each of the three types of apparatus, the month of the previous year in which the average kilowatt

¹Fictitious name used for purpose of disguise.

TABLE 17
AVERAGE DIRECT LABOR COSTS INCURRED PER KILOWATT CAPACITY OF APPARATUS PRODUCED IN MACHINE
SHOP OF BUCK ELECTRICAL COMPANY

Month	Type of Apparatus	Number of Units	Total Kilowatt Capacity of Units Manufactured	Average Kilowatt Capacity	Average Direct Labor Costs, Except for Assembling, per Kilowatt Capacity	Average Direct Labor Costs, for Assembling, per Kilowatt Capacity	Total Average Labor Costs per Kilowatt Capacity
May, 1922	Alternating current apparatus.....	6	72,000	12,000	\$0.15	\$0.02	\$0.17
	Direct current apparatus.....	18	18,900	1,050	.49	.17	.66
	Synchronous converters.....	5	4,500	900	.50	.17	.67
	General average.....	29	95,400	3,290	\$0.234	\$0.057	\$0.291
July, 1922	Alternating current apparatus.....	22	78,100	3,550	\$0.23	\$0.03	\$0.26
	Direct current apparatus.....	12	16,800	1,400	.45	.15	.60
	Synchronous converters.....	3	2,550	850	.51	.17	.68
	General average.....	37	97,450	2,634	\$0.275	\$0.054	\$0.329
Oct., 1922	Alternating current apparatus.....	29	69,600	2,400	\$0.25	\$0.04	\$0.29
	Direct current apparatus.....	18	15,300	850	.52	.20	.72
	Synchronous converters.....	11	13,200	1,200	.47	.16	.63
	General average.....	58	98,100	1,691	\$0.322	\$0.081	\$0.403

capacity of the machines produced was nearest to the average kilowatt capacity of the machines to be manufactured during the succeeding period, was selected, and the labor cost figures for that month were used as the basis for estimating the future rate of production. Average labor cost figures per kilowatt capacity for all three types of machines during each of the three selected months were compiled in Table 17.

The calculation of the estimated normal rate of production for the first six months of 1923 is illustrated in Table 18. The machine shop had facilities for 350 direct labor employees. The average weekly wage for the three selected months of 1922 was \$25.95. The direct labor cost of the machine shop operated at capacity, therefore, was approximately \$9,083 per week. The total estimated labor cost of the apparatus to be produced was

TABLE 18

CALCULATION OF WEEKLY OUTPUT REQUIRED TO FILL BOOKED ORDERS OF BUCK ELECTRICAL COMPANY FOR FIRST SIX MONTHS OF 1923

Type of Apparatus	Units of Product	Total Kilowatt Capacity	Approximate Average Kilowatts per Unit of Product
Alternating current.....	195	680,000	3,500
Direct current.....	55	61,000	1,100
Synchronous converters.....	52	62,000	1,200

Type of Apparatus	Month in 1922 Selected as Basis for Securing Labor Cost Figures*	Average Direct Labor Costs per Kilowatt Capacity for Month Selected	Total Kilowatt Capacity of Apparatus Ordered	Total Estimated Direct Labor Cost
Alternating current.....	July	\$0.26	680,000	\$176,800
Direct current.....	May	.66	61,000	40,260
Synchronous converters.....	October	.63	62,000	39,060
Totals.....			803,000	\$256,120

Number of Employees (Direct Labor)	Average Weekly Wage	Total Weekly Direct Labor Cost
350	\$25.95	\$9,083

Total estimated direct labor cost $\frac{\$256,120}{\$9,083} = 28$ weeks required to manufacture apparatus ordered

Total kilowatt capacity of apparatus ordered..... $\frac{803,000}{28} = 28,679$ —Estimated number of kilowatts to be manufactured weekly

*For each type of apparatus, that month of the previous year was selected in which the output equaled approximately the production to be scheduled.

obtained by multiplication of the total kilowatt capacity of each type by the labor cost per kilowatt for the selected month of 1922, and addition of the three products. The result, \$256,120, was divided by the weekly labor cost of the machine shop at capacity, \$9,083, to obtain the number of weeks of capacity operation necessary to produce the required apparatus. Division of 803,000, the total kilowatt capacity of the machines to be manufactured, by the number of weeks, 28, yielded 28,679 kilowatts per week as the normal rate of production for the ensuing period.

It was unnecessary to allow for possible changes in the wage scale, since such changes would affect in equal degree both the weekly labor cost of the machine shop at capacity, and the total estimated cost of the apparatus to be produced. Consequently the result obtained by the division of the second of these two factors by the first would not be altered. No changes in methods of production which would affect unit labor costs were expected during the ensuing six months' period.

15. BARRINGTON MACHINERY COMPANY¹

SITE FOR NEW PLANT. In 1904 the company compared two sites in Erie, Pennsylvania—locations A and B—and one in Tonawanda, New York, for a foundry and machine shop to manufacture hydraulic machinery and other large apparatus. The Tonawanda site was discarded because the cost of materials delivered was higher there than at Erie, and because the transportation facilities for employees were inadequate. Although the contemplated government harbor line extension would furnish dock facilities and allow the creation of a building site between the harbor line and shore at location A in Erie, the company decided to reject it in favor of location B, because the cost of the property plus the cost of filling in the land at location A, where long piles were needed for a solid foundation, would nearly equal the sum of the prices of the land at locations A and B.

(1904)

Inasmuch as the Barrington Machinery Company did not wish to enlarge its main plant, in 1904, it compared three sites for building a foundry and machine shop to manufacture hydraulic machinery and other large apparatus. One was in Tonawanda, New York, on the Niagara River just north of Buffalo; the re-

¹Fictitious name used for purpose of disguise.

maining two were in Erie, Pennsylvania, on Lake Erie. The report on which the decision was based contained the following information:

The location at Tonawanda was between 6 and 7 miles from the Buffalo City Hall, and consisted of 223 acres of land priced at \$300,000. The property had a river frontage of approximately 2,000 feet.

The northern section of Buffalo contained numerous workmen's homes, and more houses could be erected in the vicinity and in the district adjacent to Tonawanda. A trolley line terminated within a half-mile of the property in question; the line could be extended to make the site readily accessible from the northern section of Buffalo, and to provide trolley and belt-line connections with all parts of the city. With this extension, the site could be reached from the Buffalo City Hall in about 50 minutes.

A large majority of the skilled workers as well as general industrial laborers in Buffalo came from the German population in the southern part of the city. Numerous small and several large factories had been established in and around that section, an inland location with no water privileges. Workmen living there could reach the proposed site in Tonawanda in about 55 minutes by way of belt line and trolley, by paying a 10-cent fare each way. Other groups, which included Irish, Poles, and Italians, were settled in separate sections of Buffalo at approximately the same distance from the proposed site in Tonawanda.

The two sites in Erie were designated A and B. Location A was about $2\frac{1}{4}$ miles from the Erie City Hall, with a 2,600-foot frontage on Lake Erie. The contemplated extension of the harbor line by the United States Government would run parallel to the shore line of this property at a distance of about 1,600 feet. If the company selected this site, it could create valuable land by dumping the dirt and ashes from the foundry and boiler house into the lake up to the harbor line. When the bay outside was dredged by the United States Government, valuable dock facilities could be established. The purchase price for the 326 acres was \$281,000.

Location B consisted of two lots, in all 339 acres, with a frontage of 2,470 feet on Lake Erie, protected from the prevail-

ing heavy northwest winds, but exposed to the north and north-east winds. It was probable, therefore, that dirt and ashes from the foundry and boiler house dumped on the shore would drift away. New land could be made only by the construction of solid retaining walls. The southern part of this site was nearly level, but the northern section was rolling; the depressions afforded satisfactory dumping spaces. This tract could be purchased for about \$145,000.

A large proportion of the skilled labor in Erie was of German descent. These workmen lived in all parts of the city, but new houses were being built in a small village a little more than one-quarter of a mile south of location B. Trolley cars ran from the city hall to location A, and gave satisfactory service to most parts of the city. A line also ran from the city hall to location B, on a 14-minute schedule.

About 50% of the pig iron used in the Buffalo district was purchased from furnaces in the vicinity, a large proportion of the balance came from the Youngstown furnaces, and the remainder from different points, including Cleveland, which made high-grade foundry pig iron. When business was active, these producers charged uniform prices for pig-iron deliveries, f.o.b. Buffalo; but when demand decreased, they cut prices irregularly. The Buffalo furnaces also sold quantities of pig iron in the eastern states, which resulted in the maintenance of high prices in Buffalo. The freight rates to Tonawanda on pig iron produced in the vicinity of Buffalo ranged from \$3 to \$3.60 per carload, plus 25 cents per ton. The carload freight rate on pig iron from the Youngstown furnaces to Tonawanda was \$1.40 per ton.

The principal sources of pig iron in Erie were Buffalo, Cleveland, and the Youngstown furnaces; the freight rate from these points to Erie was 85 cents per ton. Four railroads delivered pig iron from Buffalo, three from Cleveland, and three from the Youngstown furnaces.

The main source of high-grade foundry coke at Tonawanda was the Connellsville region; the freight rate was \$2.10 per ton. Seventy-two hour foundry coke f.o.b. ovens was quoted at \$3.50, which made the price f.o.b. Tonawanda \$5.60. The freight rate on coke from the Connellsville region to Erie was \$1.60 per ton, which made the total cost f.o.b. Erie \$5.10. Thus the cost of coke at Tonawanda was about 10% greater than at Erie; and

lower prices f.o.b. ovens would increase this percentage. The established charge of 25 cents per ton from Buffalo to Tonawanda accounted for 5% of the difference in the cost of coke delivered at Tonawanda and Erie.

The freight rate on coal from Pittsburgh to Tonawanda was \$1.30 per ton. The price of the best quality run-of-mine coal was \$1.05 per ton f.o.b. Pittsburgh, and \$2.35 per ton f.o.b. Tonawanda. The freight rate on coal from Pittsburgh to Erie was \$1 per ton, which made the price f.o.b. Erie \$2.05.

The principal supply of molding sand at Tonawanda was obtained from the Canadian shore. Prices varied from 85 cents to \$1.15 per ton, according to quality, for sand delivered at Buffalo. Conneaut sand, used in the production of excellent quality machinery, was delivered in two grades, at prices of \$1.55 and \$1.60 respectively. To all these prices carload freight rates from Buffalo to Tonawanda of 25 cents per ton had to be added.

At Erie, sand was obtained from Conneaut at \$1.25 per ton delivered. There was also a satisfactory quality of molding sand in the vicinity that could be hauled for about \$1 per ton. A pure white lake sand, which was excellent for core work, since it contained no vegetable matter and made a strong, clean core that did not blow and was vented easily, could be purchased locally at 25 cents per ton in carload lots, plus a switching charge to the foundry at \$2 per car.

Among other materials, a large proportion of the steel castings used in Buffalo and Erie were purchased from Pittsburgh. The carload rate from Pittsburgh to Buffalo was 10 cents per 100 pounds, to which 25 cents per ton for delivery at Tonawanda had to be added. From Pittsburgh to Erie the rate was 9½ cents per 100 pounds. The rates on sheets and bars were the same as on steel castings. The approximate costs at Buffalo and Erie of manufacturing materials other than those mentioned showed no marked advantages in favor of either city.

In Buffalo, 60 hours constituted the working week, except during July and August, when it was reduced to 55 hours with a corresponding reduction in pay. The average wages were reported to be those in Table 19.

The workers in one foundry were on strike, and 23 foundries were operating on an open-shop basis. In the jobbing foundries, day-work was universal, whereas there was some piece-work in

TABLE 19
SELECTED AVERAGE WAGES IN BUFFALO, NEW YORK, IN 1904

Type of Labor	Rate per Hour (cents)
Machinists	25
Tool makers	29
Journeyman core makers	27
Molders	37

foundries making standard castings in connection with machine shops.

The working week in Erie consisted of 60 hours during the entire year. The average wages were reported to be those presented in Table 20.

TABLE 20
SELECTED AVERAGE WAGES IN ERIE, PENNSYLVANIA, 1904

Type of Labor	Rate per Hour (cents)
Machinists	25
Tool makers	28
Journeyman core makers	20
Molders	26

The average rate per hour for all employees in one large machine shop in Erie was 21.4 cents, and in the foundry 20.8 cents. Some employees were paid by the piece and others by the day in all foundries. Erie was free from union labor difficulties since almost no machinists' or pattern makers' unions existed, and the molders' union had lost much of its influence through decreased membership. There was no appreciable difference between Erie and Buffalo in the wages paid for light labor in machine shops, but much lower average wage for all types of work was paid at foundries in Erie than in Buffalo, since the foundry trades unions were aggressive in the latter city.

Outgoing transportation from Tonawanda was via the New York Central Railroad Company; this railroad passed the eastern boundary of the proposed site. Connections with the Delaware, Lackawanna and Western Railroad Company, Erie Railroad Company, Lehigh Valley Railroad Company, and other railroads were made over the New York Central Railroad Company's lines by payment of established switching charges. It was probable,

however, if this site were chosen, that sidings from the Delaware, Lackawanna and Western Railroad Company, and the Erie Railroad Company eventually could be arranged, although this depended on the development of the district. All points in the East and Middle West were easily accessible from Buffalo by passenger trains.

Erie was served by the Lake Shore & Michigan Southern Railway, the New York, Chicago & St. Louis Railroad Company, the Pennsylvania Railroad Company, and the Bessemer and Lake Erie Railroad Company. The Lake Shore & Michigan Southern Railway freight-cars went daily to Buffalo, Cleveland, and points further east and west. The Pennsylvania Railroad Company sent a full freight train daily to Philadelphia and New York, guaranteeing delivery in two days, and also furnished one-day service to Pittsburgh. The Lake Shore & Michigan Southern Railway furnished excellent passenger service at Erie to eastern and western points.

Although the price of building materials was the same in the two cities, a working day in the building trades consisted of eight hours in Buffalo and nine in Erie. The wage rates were reported to be as stated in Table 21.

TABLE 21
COMPARATIVE BUILDING TRADE WAGES IN BUFFALO, NEW YORK,
AND ERIE, PENNSYLVANIA, 1904

Type of Labor	RATES PER HOUR	
	Buffalo (cents)	Erie (cents)
Bricklayers	55	60
Stone masons	50	45
Carpenters	40	30
Cement finishers	40	40
Electricians	40	30
Laborers	18 to 22	20 to 25
Painters	37	35
Plasterers	50	40

Two important contractors at Erie, who had erected large buildings in Pittsburgh, Cleveland, and Toronto, however, gave the comparative figures shown in Table 22.

In both cities the masons were unionized completely. In Erie, the carpenters' union had only a few members; non-union struc-

TABLE 22

• SPECIAL COMPARISON OF A FEW TYPES OF BUILDING-TRADE WAGES IN
BUFFALO, NEW YORK, AND ERIE, PENNSYLVANIA, 1904

Type of Labor	RATES PER HOUR	
	Buffalo (cents)	Erie (cents)
Masons	60 to 65	55
Masons' helpers	25	20
Carpenters	40	27 to 30

tural steel workers could be obtained readily. Union and non-union men worked together without difficulty on the same building.

Riparian rights at Tonawanda permitted a company to pump water from the river for power and manufacturing purposes. Drinking water could be provided, however, only by special arrangement, since the Buffalo Board of Common Council had to authorize the delivery of water outside the city limits. Water was delivered to a large steel company south of the city line for 2 cents per 1,000 gallons, but that was the only plant outside the city limits then supplied.

Water for power and manufacturing purposes could be pumped from Lake Erie to either of the two locations at Erie. The city of Erie expected to complete within a year an extension of its water system with a new intake one mile from the shore at a depth of 30 feet, to insure a supply of pure water. The provisions for drainage were approximately equal in both cities.

Electric power was delivered in Tonawanda at the established rate of \$22.50 per electric horse-power per 24 hours daily during the year. If a steam power plant should be installed, water for boilers and condenser was available from the bay. In view of the low price at which coal was delivered at Erie, the cost of power per horse-power during ordinary working hours would compare favorably with the cost of power purchased at Buffalo. In addition, a modern power plant could sell power profitably to smaller manufacturing companies at Erie.

Borings made on river property at Buffalo showed that, 29½ feet from the surface, there was bedrock which was hard, flinty, and nearly level. The materials above the bedrock were found to be as given in the table on the opposite page.

Material	Depth in Feet
Black muck	1/2
Clay	5
Fine sand	5
Gravel	1
Sand	3
Gravel	2
Sand	5
Gravel	1
Sand	6
Hard pan	1
Total depth, surface to bedrock	29 1/2

The sand was excellent for building purposes, and could be extracted with a sand sucker in great quantities.

Although the engineer in charge of the location study could not obtain a similar schedule for foundations at Erie, he learned that sewer excavations near location A revealed eight or nine feet of sand, followed by gravel with some water but no quick-sand. At location B, a stratum of shale rock lay close to the surface. The northern part was tillable soil, but the southern section was covered with loose shale rock; exceptionally favorable foundation conditions were anticipated.

In Tonawanda the assessed valuation of property was about 75% of the actual; the tax rates were reported as given in Table 23.

TABLE 23

RATE OF TAXES ASSESSED AGAINST PROPERTY IN TONAWANDA,
NEW YORK, IN 1904

Type of Taxes	Assessment per \$1,000
City taxes	\$21.04
County taxes	2.88
Total taxes	\$23.92

Only county taxes were collected at Erie, with assessed valuation approximately 25% of the actual. The rates were as presented in Table 24.

Important developments were anticipated along the river at Tonawanda during the subsequent 10 or 15 years. Because of

TABLE 24
RATE OF TAXES ASSESSED AGAINST REAL ESTATE IN ERIE,
PENNSYLVANIA, IN 1904

Type of Taxes	Assessment per \$1,000
County taxes	\$ 2.50
County road taxes	2.50
County road work taxes	2.50
County school taxes	8.00
Total real estate taxes	\$15.50

the shipping facilities, it was probable that steel plants and other industries handling large tonnage would seek the location. Unskilled rather than highly skilled labor, therefore, might be attracted to Tonawanda.

There were 24 companies in Erie which employed over 100 persons each; two of them had approximately 800 employees. Although the industries were varied, about 18% of the total population was employed in the production of engines, boilers, gray iron, malleable iron, and brass castings. Transportation facilities for employees were about the same for both Erie sites; the territory, however, near location B was more suited to the construction of additional workmen's houses.

The company discarded the Tonawanda site as a possibility because of the high cost of materials delivered and inadequate trolley service between Tonawanda and Buffalo, which required 50 minutes and the payment of double fare.

The chief advantage of location A at Erie was the fact that a company could create valuable land by dumping dirt and ashes into the bay, and could construct deep water docks, if the United States Government dredged outside the harbor line. Since pig iron, coke, coal, steel sheets, bars, and all other important materials, except lumber and part of the molding sand needed, were delivered to Erie by rail, the proximity of location A to deep water in the bay was not important. Water deliveries were not feasible, furthermore, because the company would not purchase materials in sufficient quantity to justify the chartering of vessels. The company anticipated difficulty in securing purchase options; site A cost \$281,000 as compared with \$145,000, the price of location B at Erie. In addition, contractors would

have to drive long piles at location A in order to form a solid foundation. This would increase the cost of the land at location A to approximately the sum of the prices of the two sites.

The company decided, therefore, to select location B at Erie for a foundry and machine shop.

16. HARTWICK MINING COMPANY¹

EFFECTS OF LOW COPPER PRICES ON MINE OPERATION. The Hartwick Mining Company mined copper which it distributed under its own brand. Low copper prices in 1922 rendered unprofitable the operation of neighboring mines in which the company was interested financially.

BRAND PRICES—SEPARATE BRAND. The Hartwick Mining Company distributed the copper, produced by the neighboring mines, under a separate brand at a price slightly lower than that of the Hartwick brand.

ECONOMIES OF CONSOLIDATION. The company decided to effect a consolidation with the adjacent mining companies in order to obtain maximum use of properties, equipment, and labor force, and to secure the advantage of distributing all the output under the Hartwick brand.²

(1923)

In 1922 the Hartwick Mining Company, which operated copper mines, produced 70,000,000 pounds of copper, or about 3% of the world output. Contiguous to the mines were those of four other companies, in each of which the Hartwick Mining Company owned from 25% to 51% of the capital stock. The companies were operated separately, although sales were made exclusively through the Hartwick Mining Company. In the spring of 1923 the president of the Hartwick Mining Company proposed that a consolidation be effected, in order to operate the mines as a unit and thereby effect production economies.

The properties of the Hartwick Mining Company and of the other companies, the Abbott Copper Mines, the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company, were situated along the outcrop of a vein of copper. The Hartwick Mining Company had been in operation for 60 years; the others for from 20 to 50 years. In this region, copper was mined at costs ranging from 8½ to 14½

¹Fictitious name used for purpose of disguise.

²See also Magruder Knitting Company, p. 92.

cents per pound, and averaging $10\frac{1}{2}$ cents. This average was relatively high; in some mines in Chile, the cost was said to be only 7 cents per pound.

In the spring of 1923 the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company, which were unable to produce and sell copper profitably at less than 13, $14\frac{1}{2}$, and $13\frac{1}{2}$ cents respectively, were closed. Their properties were smaller than those of the other two companies. A state law required that at least two connected shafts be maintained on the property of every mining company. On the properties of the Bright Mines, Incorporated, and the Noyes Copper Mining Company, one shaft was adequate to secure the ore, and the maintenance of the other shaft was uneconomical. The ore, moreover, contained a smaller percentage of copper than that found in adjacent property and deeper shafts were necessary to reach the deposits.

Since the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company had no stamping mills, they sent their ore to those owned by the Abbott Copper Mines and the Hartwick Mining Company. All the companies sent their copper to the smelters of the Hartwick Mining Company. These conditions made it necessary that the ores from the different companies be kept separate while they were being refined. Some ores contained inadequate amounts of fluxing agents, such as iron and silica, and others a superabundance of these. Since the ores of different companies could not be mixed during the refining processes to take advantage of such excess supplies of fluxing agents, a distinct waste was incurred. Shops, pumps, and air compressors had to be maintained by each company; these could not be operated economically during the period of curtailed production in the spring of 1923. Since a state law provided for boundary barriers 20 feet on each side of a dividing line, each mine had many blind drifts, or horizontal passages following the vein at intervals of 100 feet along the shaft, into which compressed air had to be pumped for ventilation. These boundaries also made it necessary in many cases to haul ore underground long distances.

When all the mines were in operation, the supply of labor in the region was inadequate to man the shafts fully. The employees' homes were distributed throughout the district where the five

companies were located, and the men preferred to work in the nearest shafts, although they were willing to go farther away if those were closed. During periods of high prices for copper, when all the companies required laborers, the more profitable mines could not obtain sufficient men for full capacity operation. A saving in production costs, therefore, would be possible, if all five mines were under one management which could distribute the labor force more effectively.

For a number of years, the total sales of the five companies, which averaged about 150,000,000 pounds of copper per year, had been made by the Hartwick Mining Company. The copper had been sold under two brands. That which came from the mines of the Hartwick Mining Company proper was sold under the Hartwick brand and commanded a price from $\frac{1}{8}$ to $\frac{1}{4}$ cent higher than the "B-M" copper, which was taken from the properties of the other four companies. Analysis of the metal, however, showed almost no difference in quality between the brands.

The demand for Hartwick copper had been built up over a period of years through uninterrupted service. Many customers, especially those who manufactured fine-drawn wire, were reluctant to accept the B-M brand, even at the lower price, when the supplies of Hartwick brand were inadequate. Use of the Hartwick name on the entire output, therefore, would be advantageous.

The five companies customarily mined about 3,000,000 tons of ore per year. This ore was hauled to the smelting mills over the Putnam & Southern Railroad, which had been built for public freight service. Its line was not well adapted to the specific needs of these mines, and transportation of ore was uneconomical because of steep grades and roundabout routes.

In advancing the argument for consolidation, the president of the Hartwick Mining Company stressed the community of interest which existed. Many of the stockholders of each company owned stock in one or more of the other mines. Since the region had to compete with the copper mining districts of South America and Arizona, all possible economies should be effected. Consolidation promised the following mining economies: elimination of the 40-foot barriers which contained valuable deposits of metal, between properties; connection of drifts between mines in order to shorten underground hauls; decreased necessity of drill-

ing through lean rock to reach richer ore; reduction in the quantity of compressed air required to ventilate dead ends; transfer from one mine to another of crews specialized in specific mining operations; and avoidance of duplication of equipment used only at infrequent intervals.

In the mills and smelters the realizable economies were even greater. Mixing of the ore from the different mines with a reduction in the purchases of fluxing material; replacement of the 30,000-pound furnaces with those of 250,000-pound capacity, with a consequent saving in smelter cost of 7/10 of a cent per pound; a decrease in taxation by the discontinuance of four of the five corporations; avoidance of competition between the companies in securing additional mining territory; curtailment of expenses connected with sales and administration: all these would be possible if the consolidation were effected. It was estimated further that the building of a new railroad by the mines would reduce the cost of handling ore from 18.5 cents to 11.25 cents per ton. When a labor shortage occurred, the available men could be assigned to the shafts where ore was mined at low cost in order to operate them at capacity, while in the higher cost shafts, only the maintenance expenses were incurred.

Several stockholders of the Hartwick Mining Company objected to the consolidation on the ground that it provided for the inclusion of three relatively high cost mines whose stockholders were to receive dividends from profits in the making of which they had had no part. The president pointed out, however, that these properties were situated between the others in such a way that their inclusion in the consolidation was essential to the attainment of the economies outlined. He stated that the varying earning powers of the companies were reflected fairly in the market prices of their common stocks. The terms upon which the companies should join the merger, therefore, could be determined on the basis of comparative common stock quotations. In the less profitable mines, furthermore, the average life of the shafts was estimated to exceed the average in the other mines by three or four years.

The president computed the savings at \$1,000,000 per year, and earnings at slightly over \$2 per share on 2,000,000 shares, with copper at 14½ cents. Table 25 gives the then current market prices of the five companies' common shares, the ratio for

exchange of shares in the consolidated company for one share in each of the old companies, and the estimated annual return per share on the independent shares already outstanding.

TABLE 25

RATIO OF EXCHANGE OF COMMON STOCKS OF FIVE COPPER COMPANIES
FOR COMMON STOCK OF CONSOLIDATED COMPANY

Company	Price per Share of Common Stock Outstanding	Exchange Ratio	Dividend Rate per Year per Share Outstanding
Abbott Copper Mines	\$60.00	2.68	\$5.36
Bright Mines, Incorporated	18.00	.80	1.60
Hartwick Mining Company	44.00	1.98	3.96
Noyes Copper Mining Company	8.50	.38	.76
Richardson Mining Company	35.00	1.56	3.12

The estimated earnings, at various sale prices for copper, of the five companies operating independently and under the consolidation are shown in Table 26.

TABLE 26

ESTIMATED EARNINGS, AT VARYING SALE PRICES OF COPPER, OF FIVE
COPPER COMPANIES OPERATING INDEPENDENTLY AND
UNDER CONSOLIDATION

Company	ESTIMATED EARNINGS	
	Independently	Under Consolidation
14½-Cent Copper		
Abbott Copper Mines	\$1,073,000	\$1,254,000
Bright Mines, Incorporated	97,000	187,000
Hartwick Mining Company	2,357,000	2,808,000
Noyes Copper Mining Company ...	none	80,000
Richardson Mining Company	151,000	351,000
Total	\$3,678,000	\$4,680,000
15½-Cent Copper		
Abbott Copper Mines	\$1,300,000	\$1,565,000
Bright Mines, Incorporated	161,000	234,000
Hartwick Mining Company	3,060,000	3,504,000
Noyes Copper Mining Company ...	23,000	99,000
Richardson Mining Company	297,000	438,000
Total	\$4,841,000	\$5,840,000
16½-Cent Copper		
Abbott Copper Mines	\$1,526,000	\$1,876,000
Bright Mines, Incorporated	226,000	280,000
Hartwick Mining Company	3,761,000	4,200,000
Noyes Copper Mining Company	46,000	119,000
Richardson Mining Company	444,000	525,000
Total	\$6,003,000	\$7,000,000

In order to compensate the stockholders of the currently productive mines for a possible reduction in the customary dividend and to recognize the favorable cash position of the Richardson Mining Company, it was proposed to allow the Abbott Copper Mines \$5 per share in cash, the Hartwick Mining Company \$1.25 per share in cash, and the Richardson Mining Company \$1 per share in cash.

Because of the economies attainable by the merger, the five companies voted to adopt the plan. The stockholders of the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company were permitted to share in the profits of the consolidation through conversion of their shares at the suggested ratios.

17. MAGRUDER KNITTING COMPANY¹

CONSOLIDATION TO REDUCE SALES EXPENSE. The Magruder Knitting Company, which manufactured knitted and woven underwear, planned to consolidate with the Irving Hosiery Mills in order to effect substantial economies in sales expenses.

MINORITY STOCKHOLDERS. A minority of the holders of Irving Hosiery Mills' common stock opposed the change. This prevented complete assimilation of the Irving Hosiery Mills as a subsidiary.

HOLDING COMPANY. The Magruder Knitting Company decided to organize a holding company which should control both the operating companies.

COMMON STOCK ISSUE. The Magruder Knitting Company decided that the holding company should be capitalized by an issue of no-par-value common stock rather than an issue of preferred stock.²

(1923)

The Magruder Knitting Company manufactured knitted and woven underwear from cotton, wool, silk, and from combinations of these fibers. Sales were made directly to retailers throughout the United States.

The president of the Magruder Knitting Company was of the opinion that sales expense could be lowered by consolidation with another mill whose products could be sold by the company's sales force. To be suitable for consolidation, the other mill must have

¹Fictitious name used for purpose of disguise.

²See also Hartwick Mining Company, p. 87.

a favorable reputation, and a high-quality product with established demand. Above all, the method of distribution had to be similar to that of the Magruder Knitting Company. These conditions apparently were fulfilled by the Irving Hosiery Mills, which made and sold directly to retailers a complete assortment of full-fashioned and seamless hosiery. Negotiations with the principal common stockholders of the Irving Hosiery Mills in April, 1923, disclosed that they approved the consolidation. The officers of the Magruder Knitting Company had to decide whether or not the consolidation was advisable, and, if it was to be made, how it should be financed.

The Magruder Knitting Company originally was established as a partnership in 1886; the following year, a corporation by the same name was formed with a paid-in capital of \$75,000. From 1895, growth was continuous. Expansion was financed from earnings, except that \$1,500,000 of preferred stock was sold to the public in 1912. National advertising established a steady consumer demand for the brand "Magruder" and, by 1922, annual sales were more than \$9,000,000. The company's products were distributed more widely than were those of its competitors.

The financial condition of the company on March 31, 1923, was indicated by the balance-sheet given below.

The Irving Hosiery Mills, which was a pioneer in the machine

MAGRUDER KNITTING COMPANY BALANCE-SHEET, MARCH 31, 1923

Assets	Liabilities
Cash\$ 653,000	Notes Payable (Bankers and Brokers) ....\$1,930,000
Notes and Accounts Receivable, less Reserve 1,564,000	Notes Payable (Individuals) . 84,000
Sundry Accounts Receivable ... 22,000	Accounts Payable 501,000
Due from Officers, Employees, etc. 41,000	Sundry Accounts 139,000
Notes, Deposits 30,000	Taxes 133,000
Inventories 4,133,000	
Total Current Assets ..\$6,443,000	Total Current Liabilities..\$2,787,000
Prepaid Expense 30,000	Miscellaneous Receipts.... 22,000
Notes Receivable and Em- ployees' Stock Subscrip- tions 92,000	7% Preferred Stock..... 800,000
Investments 7,000	Common Stock and Sur- plus 4,765,000
Property and Plant less Depreciation 1,802,000	
Total .....\$8,374,000	Total .....\$8,374,000

knit hosiery industry, was incorporated in 1891 and produced hosiery from cotton, wool, silk, and combinations of those materials. The company had expanded constantly and had established a reputation for high quality. The products were sold directly to retailers under a nationally advertised brand name. Sales in 1922 were \$4,000,000. The balance-sheet on March 31, 1923, was as follows:

IRVING HOSIERY MILLS BALANCE-SHEET, MARCH 31, 1923

Assets		Liabilities	
Cash	\$ 9,000	Notes Payable (Bankers and Brokers)	\$ 667,000
United States Securities	143,000	Notes Payable (Individual) ..	1,000
Notes and Accounts Receivable	796,000	Trade Acceptances	49,000
Sundry Accounts Receivable ...	5,000	Accounts Payable	248,000
Notes, Deposits .	23,000	Accrued	189,000
Inventories	2,543,000	Due to Subsidiary	232,000
		Taxes	49,000
Total Current Assets	\$3,519,000	Total Current Liabilities..	\$1,435,000
Property Expense	22,000	6% Preferred Stock.....	600,000
Advances on Purchase of Equipment	17,000	Common Stock and Surplus	2,598,000
Property and Plant.....	1,075,000		
Total	\$4,633,000	Total	\$4,633,000

The net profits of the Magruder Knitting Company and of the Irving Hosiery Mills, after deduction of taxes at the 1922 rate, were as stated in Table 27.

TABLE 27
NET PROFITS OF MAGRUDER KNITTING COMPANY
AND OF IRVING HOSIERY MILLS, 1917-1922

Year	Magruder Knitting Company Net Profits*	Irving Hosiery Mills Net Profits*
1917	\$808,000	\$ 311,000
1918	919,000	410,000
1919	935,000	675,000
1920	275,000	1,054,000
1921	418,000 (loss)	86,000
1922	16,000	203,000

*After deductions for taxes at 1922 rate.

The president of the Magruder Knitting Company regarded

Irving hosiery as a satisfactory addition to the Magruder products. The Magruder Knitting Company would not be overbalanced by the consolidation. An alliance of the two companies was expected to strengthen the reputation of each. In unit retail stores, underwear and hosiery frequently were sold in one department under the direction of a single buyer. Selling efforts, therefore, would not have to be increased substantially; salesmen could obtain orders for both lines during the same calls on buyers. If the two sales forces were combined, furthermore, the less able salesmen could be discharged.

A consolidation also would allow economies in management expense by a combination of the executives of the two organizations. The most modern production methods had not been introduced in the plant of the Irving Hosiery Mills, the output of which probably could be increased by 20% without additional fixed charges. Further savings were possible through discontinuance of some of the 130 hosiery lines manufactured.

On the other hand, centralized control of production was impracticable because the plants of the two companies were 400 miles apart and the processes of manufacture were different. No significant economies in the purchase of raw materials could be secured, for, although the same materials were used, they were required in different forms for the two products. The remaining salesmen, furthermore, would not be familiar with the selling points of the added products and hence would be handicapped at first.

The president of the Magruder Knitting Company decided that the savings obtainable in selling and administrative expenses made the consolidation advisable. After negotiations, the consent of the majority of common stockholders of the Irving Hosiery Mills was secured.

A minority of about 5% of the Irving Hosiery Mills' common stockholders opposed the change and would not sell or exchange their stock. This prevented a complete assimilation of the Irving Hosiery Mills as a subsidiary because that minority might hamper the Magruder Knitting Company in its control of the subsidiary. The Magruder Knitting Company, therefore, decided to form a holding company to own a large part of the stock of the two companies. The holding company also would insure that the separate identities of the two corporations and of

the individual brands be maintained. If the Irving Hosiery Mills had become a subsidiary of the Magruder Knitting Company, the latter's brand might have been associated by customers and the public with both products. This would have eliminated the benefits which might be derived from the established demand and good-will for the product of the Irving Hosiery Mills.

A sale of securities of the holding company to the public was necessary in order to raise funds to purchase the Irving Hosiery Mills' common stock. There were 18,563 shares of that stock outstanding with a par value of \$50 per share. It was expected that about 95% of the stock could be purchased at a price of \$135 per share. Since additional working capital of approximately \$1,200,000 was necessary, the total amount to be raised from the sale of securities was \$3,600,000.

Earnings were sufficient to warrant the sale of stock, but the executives were undecided whether common or preferred stock should be offered. Common stock ordinarily was deemed preferable from the point of view of capital structure. An objection to issuing it, however, was that those who managed the Magruder Knitting Company and were its most important stockholders would be required to sell a substantial portion of the controlling stock of the holding company. The latter could be capitalized with 200,000 shares of no-par-value common stock. Purchasers of the common stock could expect to receive dividends at the rate of \$3 per year. In the opinion of the bankers, the stock could be sold at \$42 per share. At that price, it would be necessary to sell 90,000 shares in order to secure the required amount. Thus the former owners of the Magruder Knitting Company would control only 55% of the common stock in the holding company, but would have a compensating interest in the Irving Hosiery Mills. Although an advantage of common stock over preferred was that dividends could be reduced during periods of depression, it would be necessary to share with the public almost half the earnings declared as dividends in periods of prosperity.

The required capital might be obtained through an issue of preferred stock of the holding company. In that way, the control of the Magruder Knitting Company over the holding company would not be weakened. The preferred stock of the holding company, whose only assets were the common stocks

of other corporations, however, could not be sold to investors more readily than could the common stock, unless the dividend rate on the preferred stock was unusually high. Although there were no bonds on the properties, and preferred stock would have a first claim in the earnings of the holding company, the fact that the latter did not own all the common stock of the Irving Hosiery Mills would lessen the salability of preferred stock.

If preferred stock were issued, furthermore, the company would have to reduce the two outstanding issues, totaling \$1,400,000, in order to place the proposed new preferred stock in a prior position. The dividend rate on the \$600,000 issue was only 6%, and premiums would have to be paid for the redemption of both issues. This substitution of one issue of preferred stock for the two outstanding issues would require additional capital to the amount of about \$1,500,000. New issues of preferred stock had been sold frequently during the preceding months and the investors who usually purchased preferred stocks were well supplied. The low prices at which preferred stocks of similar manufacturers were selling were evidenced by the following quotations for stocks bearing 7% dividends: Onyx Hosiery Company 96½, Van Raalte Company 93, Phoenix Hosiery Company 97.

The executives of the Magruder Knitting Company were convinced that both the nature of the holding company's assets and the existent conditions in the stock market were more favorable for an issue of common stock than of preferred stock. The executives, therefore, decided to finance the holding company with 200,000 shares of no-par-value common stock and to arrange for the sale of 90,000 shares to the public at about \$42 per share.

18. DARROW SHOE COMPANY ¹

ACCEPTANCE OF SPECIAL ORDERS. The company manufactured about 800,000 pairs of shoes annually. Two per cent of the shoes were made according to special orders taken by retailers and forwarded to the company. The company and its competitors made an extra charge of \$1 per pair on special orders. In 1923 many competitors increased

¹Fictitious name used for purpose of disguise.

the extra charge for special shoes to \$2 or \$3 per pair. The Darrow Shoe Company contemplated discontinuance of all special-order manufacture, but decided to continue acceptance of the special orders.

COMPETITIVE PRICE ADVANTAGE. Although the extra costs of manufacturing special-order shoes probably were high, the company decided to retain the charge of only \$1 per pair because of the advantage obtainable in competitive marketing.¹

(1923)

For several years the Darrow Shoe Company had deemed it necessary to make single pairs of shoes on special order to retain the good-will of its customers. To determine the selling price of special-order shoes, the practice of the Darrow Shoe Company and its competitors had been to add \$1 to the selling price of similar shoes made in the usual quantities. This added charge was to cover the extra overhead and the expense incurred for the production of a single pair. In 1923 many competing manufacturers increased the additional charge to \$2, \$2.50, or \$3, in order to limit the number of individual orders and to attempt to insure against manufacturing losses. The Darrow Shoe Company, consequently, had to decide whether it should continue the manufacture of special-order shoes, and whether the extra charge should be increased.

The company's shoes were in the medium-price range; they were sold directly to retailers. The factory employed 1,100 men, and produced about 800,000 pairs of shoes annually. Shoes were made for stock when advance orders did not absorb the full capacity of the plant. Between 1% and 2% of the annual production was for individual special orders. These orders were received from retailers whose customers occasionally wished shoes made according to individual specifications. The retailers believed it important to have such orders filled promptly and at moderate extra cost.

The determination of accurate costs for the specially made shoes was difficult. When a standard order was received by the factory, the clerical department made out a prime or master manufacturing tag with six duplicates which contained all specifications for the manufacture of the style of shoe specified. The master tag was sent to the storeroom, and duplicates were sent to the lining and trimming room, stitching room, lasting room,

¹See also Hutchinson Engineering Company, p. 110.

sole-leather and heeling room, making room, and finishing room. Shoes were conveyed from one operation to another on wheeled racks which contained 24 pairs each. One set of tags was made out for each lot of similar shoes, which included 24 pairs or less. For special-order shoes, tags had to be filled out to state the manufacturing requirements for each pair.

On the tags were specified the requirements and directions for cutting, fitting, bottoming, and finishing. In the cutting directions the following requirements were covered:

Style pairs	Lining	Size-up
Vamp	E stay	Quarter sizing
Top	B stay	Gild
Heel stay	Tip	Gore

The fitting directions on the tag covered the following specifications:

Style of fit	Butts	Stitch
Stay	Button	Eyelet
Edge	Tape	Webb

The following bottoming directions were listed:

Style	Stay	Stitching
Counter	Insole	Heel quality
Sole	Box	trim
Heel	Welt	

The finishing directions on the tags specified these processes:

Forepart	Dress	Carton label
Shank	Sock lining	Stencil
Top piece	Lace	
Stamp	Carton	

The master tag was sent to the pattern and last department where the proper patterns and lasts were issued. Then it was sent to the storeroom to authorize the issue of leather for uppers. The leather and patterns were delivered to the cutting room, and the lasts were sent to the lasting room to await the finished uppers. The pattern and last department, storeroom, and cutting room were on the fourth floor adjacent to each other. Shoes were moved from the fourth to the first floor in the process of manufacture. Under normal conditions, shoes were manufactured and ready for delivery in 22 days after the specifications were issued.

Although some standard stock was stamped by machine dies, nearly all the uppers were cut by hand. In the cutting department also was performed the skiving operation in which the edges of uppers were shaved so that the joints overlapped when the pieces were sewed together. When the requirements for one case, namely, 24 pairs of shoes, were completed, uppers were tied into bundles which contained the vamp, quarter, top, and foxing, and were sent to an intermediate assembly bench.

The linings and trimmings were cut by machine; linings and trimmings were stamped with the size, width, and case number of the lot and sent to the assembly bench. At the assembly bench the uppers, linings, and trimmings were placed on racks and transported through a runway into the stitching room. Stitching operations were determined by the style of the shoe. Girls marked the places to be stitched and perforated; stitching was done on special Singer sewing machines. The following stitching operations were performed on all shoes: seaming, lining, staying, making, perforating, vamping, fancy stitching, tip stitching, eye-letting, and sealing with temporary lacings. Other possible operations were: double and triple stitching, fancy perforating, pairing, and sewing on buttons or buckles. There were 40 possible operations in the stitching of the uppers. All work was done by machine; workers, with the exception of the apprentices, were paid piece rates. The linings were sewed together by machine and pasted to the sewed uppers by hand. When the stitching process was completed, the uppers, linings, and trimmings were bundled and sent in the racks by elevator to the lasting room on the third floor. The assembled uppers were ready to be attached to the welt, sole, and heel.

Congestion occurred most frequently in the stitching department. The work was exacting and had to be done by skilled workers. The pay of expert stitchers, therefore, was more than in other departments of the factory; one man who was efficient on a Duplex machine, which stamped both rows of eyelets in the uppers in one operation, received about \$250 per month. It was difficult to hasten the work unless new operators were employed; the company usually had to train apprentices for stitching work.

In the lasting department, the sewed uppers and linings were paired with the lasts brought from the pattern room. Eight operations were performed; the last was fastened on the machine,

and an insole was tacked to the last. The upper, to which the lining had been pasted, then was placed over the last, the counter was put in and the upper was tacked over the last. The "pulling over" machine pulled the upper tightly over the lasts and tacked it in place. A toe wire was stretched firmly around the "pulled over" ends of the tip at the bottom of the upper parallel with the insole and tacked to the last. The excess upper and lining was trimmed by machine. It was necessary that the "pulling over" process be accurate because it gave the shoe its permanent shape on the last.

The company stocked soles and heels; the soles were cut in sizes and passed through a machine which measured the thickness of the leather and stamped it upon the bottom.

In the making department 21 operations occurred:

Welting—The welt was a strip of leather sewed to the bottom of the insole around the lower edges of the upper.

Tack-pulling—Part of the tacks which held the uppers to the lasts were pulled out.

Seam-trimming—The excess of uppers, leather, and lining remaining was trimmed until flush with the edge of the welt.

Flattening out welts—The welt was flattened so that it would not be curled before the sole was sewed.

Tacking on shanks—The shank was a strip of wood or metal covered by leather which was tacked on the insole under the arch of the shoe.

Bottom-filling—The insole was covered with a combination of rubber and cork until the bottom of the shoe was flush with the welt.

Molding outsole—The outsole was rounded to fit the arch.

Cementing outsole—The outsole was cemented to the insole.

Rough-rounding and channel-cutting—Excess edges of the outsole were ground off, and a channel was cut into the sole where stitches were to be located.

Goodyear stitching—The sole was sewed to the welt.

Cementing channels—The channel was cemented and placed down over the stitches in the sole.

Nailing heel set—A row of nails were driven through outer and inner sole around the outside edge of heel.

Rough-rounding heel—Excess outsole over heel was ground away.

Leveling—The bottom of the shoe was pressed to conform to shape of last.

Heeling—The heel was tacked on.

Slugging—Top of heel piece was put in place.

Heel-rounding—Excess of heel top was trimmed.

Breasting heel—The edge of heel next to arch was cut to proper shape.

Scouring heel—Heel was sandpapered.

Edge-brushing—Edges of sole and heel were brushed and sandpapered.

Edge-setting and staining—Sole edges were trimmed and stained.

After these operations, shoes were sent to the finishing room. Here the bottom heel was stained or left rough, according to specifications. Heels were brushed and polished. Temporary laces were removed from the eyelets and thread ends were burned off. Materials used were: wax, stains, brushes, and sandpaper.

In the treeing room, to which the shoes were sent after finishing, the sock lining was put in and pasted to the top of the insole. The bottoms were stamped with the trade-mark, and in some cases with the name of the retailer who ordered the shoes. Shoes were treed, cleaned, ironed, and final inspection was made. Laces were threaded into the eyelets and patent leather shoes were flamed to give them additional luster. Materials used were: sock linings, dyes, glue, and cleaning fluids.

The shoes were loaded on an elevator and sent to the packing and shipping room on the first floor. There they were brushed and packed into cartons which had been labeled. The cartons were boxed in wooden cases and marked for delivery. Materials used were: cartons, tissue paper, wooden boxes, metal nails, and binding wire.

To determine the selling prices of its branded shoes, the Darrow Shoe Company added its manufacturing profit to the cost of production. A typical cost schedule follows:

DARROW SHOE COMPANY

Complete Cost Accounting Schedule for One Pair of Calfskin Oxfords Produced in June, 1923

Material or Process	Cost
Vamp, Tip, Top, Foxing	\$1.32
Tongue .....	.03
Tongue lining .....	.03
Doubler .....	.005
Inside lace .....	.03
Heel pieces .....	.01
Top facing .....	.04
Total upper cost	\$1.465

Outer sole (9 irons)	\$0.65	
Inner sole .....	.25	
Welt .....	.075	
Counter (leather) .....	.09	
Heel (leather) .....	.11	
Top lift .....	.10	
Box toe (leather) .....	.08	
Total bottom cost		\$1.355
Eyelets	\$0.01	
Strap .....	.01	
Shanks .....	.03	
Laces .....	.005	
Paper .....	.045	
Cartons .....	.02	
Total supplies cost .....		.12
General findings cost	\$0.15	.15
Gross material cost		\$3.09
Purchase discount	\$0.12	.12
Net material cost		\$2.97
Cutting-room labor	\$0.29	
Stitching-room labor .....	.30	
Sole, heel, and counter .....	.08	
Making-room labor .....	.50	
Finishing-room labor .....	.075	
Treeing labor .....	.09	
Packing labor .....	.03	
General labor (shipping room, paymaster department, tag department, office expenses) .....	.12	
Total labor cost*		1.485
Manufacturing expense (all items such as insurance, taxes, trucking, freight, light, heat, and power, brushes, cleaning fluids, and incidentals)	\$0.35	
Shoe loss allowances .....	.03	
Royalty (to the United Shoe Machinery Co.) .....	.08	
Total .....		.46
Total manufacturing cost		\$4.915
Sales office	\$0.18	
Sales discount .....	.06	
Sales commission .....	.30	
Total sales expense .....		.54
Selling cost		\$5.455

*Both direct and indirect labor costs.

The manufacturing expenses listed above corresponded to general overhead expense listed in most factories. The proportions of the above costs were, approximately, labor, 25%, material, 50%, and indirect expenses, 25%.

Labor costs included the piece and time wages paid on each pair of shoes and the indirect labor in each department. Of total labor cost, 60% represented piece wages and 40% day wages. In all departments there were piece and day rates, and direct and indirect labor. The overhead cost, listed as manufacturing cost in the schedule, was estimated from the preceding season. The company gaged the approximate total sales for each season and applied the rate of overhead used in the preceding season, when sales in each period were approximately the same. Otherwise, the rate for the new season was modified according to the expected difference in output.

The company had to pay a worker one and one-half times the ordinary piece wage when he performed a piece-rate process on special-order shoes. The shoe workers' union had secured this provision because a worker's productivity necessarily was lower when he was transferred from quantity output of similar shoes to work on individual pairs. The production manager stated that the men always left the work on the special orders until the last, because of the changes in process and consequent loss of time. For the same reason the company charged to special orders one and one-half the ordinary day wage on processes paid for on a time basis. In addition to these extra costs, a customer was charged with the exact price of the new last and pattern if these had to be purchased. The total labor cost per pair of standard shoes averaged \$1.45, of which \$1.25 was for direct labor.

Orders taken by salesmen were subject to acceptance by the factory. Each order for a special pair of shoes was confirmed by mail. The production department then made the production tags. As much time and paper were consumed to conduct the correspondence and to make the tags for a single pair of shoes as for a 24-pair lot of standard shoes. In the storeroom a single skin was selected and sent with the manufacturing tag to the cutter. After the uppers were cut, the remnants of the skin often had to be returned to the storeroom. The last and pattern were returned to the pattern room. On every machine process the worker had to change the adjustment of the machine to insert

the special-order shoes. These changes were necessary in all the stitching processes and in vamping, lasting, "pulling over," welting, soling, rough-rounding, heeling, heel-shaving, edge-trimming, making, finishing, treeing, and all other machine processes. From a half-minute to a minute was required to accomplish each adjustment. Standard shoes were transferred on wheeled racks from one machine to another, but the special-order shoes had to be carried by hand. The foreman of each department had to make a detailed inspection of each special-order pair of shoes. In the stitching room, three laborers were occupied wholly and another man half the time in carrying special shoes between machines. The special-order shoes retarded production throughout the factory; additional labor was expended; time was lost; detailed attention was given to inspection; individual numbers had to be stamped; and individual finishes had to be applied. Although the company completed standard shoes in 22 days, it attempted to enforce 10-day schedules for special-order shoes.

In the packing room, individual cartons were provided and labeled for special-order shoes, and the carrying charges were prepaid. The shipping room packed these cartons in individual containers and paid parcel-post charges to the customer; standard shoes, however, were packed in case lots in wooden boxes for freight shipment.

Because of the disadvantages of manufacturing special shoes, the production department advocated that orders for them no longer be accepted. The sales force maintained, however, that the good-will of retailers was enhanced by the policy then in effect; that the marketing of medium-price shoes was highly competitive; and that the company must stress the prestige of its product. Since competitors offered special-order service, failure of the Darrow Shoe Company to do so, it was apprehended, probably would cause many retailers to place all orders with the other makers.

It was impossible to estimate the value of the good-will which resulted from the acceptance of special orders. Because of the indirect losses of time and effort, and the interruption of production schedules, the cost accountant was not able to ascertain whether the production of special shoes returned a manufacturing profit to the company. The proportion of special orders, moreover, was insufficient to justify a separate department for making

them, because of the duplication of expensive machinery that would be involved. Since economical manufacture of moderately priced shoes was dependent upon mass production and maximum use of machinery, to have the special shoes made by hand would have caused prohibitive prices.

Despite the objections from the production standpoint, the Darrow Shoe Company decided that the marketing advantage was sufficient to justify acceptance of special orders. Although an accurate estimate of total costs could not be made, the company concluded that to increase the charge might defeat the purpose of the company's policy and the \$1 charge was retained.

19. MARKHAM KNITTING COMPANY¹

CENTRAL PURCHASING OFFICE. Each of the company's seven widely separated knitting mills wound its own yarn, but requisitioned the yarn from the company's central purchasing office.

MALADJUSTMENTS OF SUPPLIES BETWEEN PLANTS. Yarn requirements and production activity differed with each mill. Shortages and excess stocks of wound yarns occurred simultaneously in the company's different mills, but transfers of stocks of wound yarn between the mills were made reluctantly and irregularly by the superintendents of the mills.

CENTRAL DEPARTMENT FOR PREPARING SUPPLIES. The company decided to establish a central winding department from which deliveries would be made to each mill in accordance with its actual requirements.

(1923)

The Markham Knitting Company manufactured knit goods of many kinds at its seven mills, of which four were located in Pennsylvania, near Philadelphia, one in Illinois, one in New York, and one in Georgia. Each mill had a department which wound all the yarn used by the mill. This practice proved unsatisfactory, however, and the company contemplated centralizing all winding in the main mill at Philadelphia.

Under the existing system, each plant superintendent secured the yarn for his mill from the company's purchasing agent in Philadelphia, but estimated his own needs and sent in his own samples of yarn to be matched. The yarn was delivered to the plants and there wound on tubes to be stored until required. The

¹Fictitious name used for purpose of disguise.

plant superintendents were instructed to keep in stock only enough yarn to insure continuous production. Since the chief aim of the superintendents, however, was to secure uninterrupted manufacture, they frequently overstocked wound yarn. It was known that a six or eight months' supply was often on hand in each plant. Sometimes stock was mislaid or forgotten; in one plant wound yarn was found that had been put in storage four years previously. The Markham Company used about 50 kinds of yarn, and although no one mill required all the varieties, almost every kind was needed in more than one plant.

The purchasing agent kept lists of all yarn supplies at each plant; if a mill had a large supply of one kind of wound yarn, the central office tried to have a less well stocked mill take the surplus. Each mill, however, preferred to wind yarn for its own use rather than to take what it looked upon as second-hand material.

Although extensive stocks of yarn were kept by each mill, some mill occasionally would exhaust its supply of a special quality, whereas, at that time, other plants had more than enough for their needs. To remedy this situation, the superintendent of the mill which required a specified kind of yarn, requisitioned it from the central purchasing agent, who then examined his inventory lists and notified a mill which had an excess of that yarn to pack and send the needed quantity to the requisitioning mill.

This plan was unsatisfactory. The mills were separated widely; the tasks of sending notifications and packing and transporting the yarn consumed much time. Delayed shipments often interrupted production. The superintendents on whom requisitions were served disliked to release yarn because they were apprehensive of stock shortages in their own plants. The purchasing agent could not compel delivery if a mill stated that it could not spare the yarn.

The machinery in each plant used for winding yarn represented a large investment, since each plant had sufficient winding machines to supply its needs at peak production. The output of the separate mills varied markedly during the year. Although, over a three- or four-year period, business prosperity and depression affected all the mills similarly, the weekly and monthly fluctuations of activity in any one mill had little relationship to

the fluctuations in the others. Since each plant manufactured a different type of knitted product, the demand for the output of the mills did not vary uniformly. The total output of the company from period to period, therefore, was more constant than that of any separate mill.

The ratio of actual production to capacity production at each plant, and in total, during the first week in May and the first week in June, 1923, was as indicated in Table 28. Since the total output of all the mills was more nearly regular than that of any one mill, centralization of winding would require less machinery than the existing arrangement.

TABLE 28

PERCENTAGE OF ACTUAL WEEKLY PRODUCTION IN MARKHAM KNITTING COMPANY'S MILLS, FOR WEEKS ENDING MAY 5, 1923, AND JUNE 9, 1923
(*Capacity Production=100%*)

Mills	ACTUAL PRODUCTION, PERCENTAGE OF CAPACITY	
	Week Ending May 5, 1923	Week Ending June 9, 1923
A	91%	50%
B	66	55
C	63	79
D	100	48
E	80	49
F	63	59
G	72	63
Average, all mills	76%	58%

The company had a building at the main plant, which was available for the machinery and stores of a centralized winding department. In addition, it was possible to sell any surplus machinery that might be found in the individual mills. A factor in the suggested plan, however, was the cost of taking down, transporting, and setting up the machines to be used at the main plant.

Under the existing system, yarn varied in shade because seven plant superintendents submitted samples to be matched. Centralized selection and purchase of yarn could be effected without the establishment of a centralized winding department. Through the adoption of the entire plan, however, the purchasing and winding departments could work together with mutual benefit, since one man could purchase all the yarn.

The factory superintendents opposed the change, because they were apprehensive of stock shortages. They also disliked diminution of their authority. If the plan were adopted, furthermore, there could be no return to the former arrangement without additional expense. The factory superintendents were convinced, however, that stocks of yarn would be lessened materially.

Although a larger scale of production in a single plant could not reduce direct costs, the general manager believed it possible to lower indirect expenses through more effective administration and decreased inventories.

The Markham Knitting Company decided, therefore, to establish a central winding department. The required winding machinery was sent to the main plant and the rest was sold. This liberated \$50,000 over and above the transportation and installation charges.

All wound yarn was requisitioned from the centralized winding department. The company established a system of truck transportation to the Pennsylvania mills, so that it could deliver to them within 24 hours after receipt of an order. Each mill in this district was to have only one week's supply in stock. Yarn was sent in carload lots to the more distant mills; deliveries could be made to them within one week from the receipt of an order. Each of those mills was to carry not more than three weeks' supply.

In addition, a regulation was established that yarn unallocated to an order was to be returned to the winding department after 60 days. Each package of yarn had a tag bearing the date of shipment. The general offices and the winding department kept a record of the yarn sent to each mill and the quantities consumed in filling orders. A close check on inventories was thus possible. During their monthly visits to the mills, the general manager and his assistant noted any material shipped more than 60 days prior to the date of the visit.

The winding department kept 15 days' supply of wound yarn on hand packed in 50-pound boxes. Orders, therefore, could be filled upon receipt. Under this method, \$25,000 was released that previously had been invested in raw materials.

Other advantages resulted from the plan. Mills became more particular as to the quality of yarn used. Under the new arrangement, they more frequently refused to use defective ma-

terials. Since one man selected all yarn, more uniform colors and quality were secured.

A further advantage of this method was the improved standard of the labor in the winding department. The company always had desired to secure a high type of labor. It was the executives' opinion that competent labor was attracted not only by high wages, but also by the kind of workers employed. By uniting the winding departments, more capable workers than were employed in the smaller divisions gradually were secured.

When the winding departments were decentralized, there were two or three satisfactory workers out of the 15 employed in winding in each mill. As work in the mill decreased, the least productive operators had been discharged. When factory operations increased and more employees were needed, only inferior workers could be obtained because of the uncertainty of continuous employment.

After the winding departments were centralized, among the 100 persons employed there were approximately 20 excellent workers. The company gradually replaced the unsatisfactory employees with desirable persons. Because of the central winding department's more even rate of production, greater regularity of employment was afforded to the workers.

The plan gave the factory superintendents more time to supervise the output for which they were responsible. This situation not only reconciled them to the system, but also secured their unqualified approval of the change.

20. HUTCHINSON ENGINEERING COMPANY¹

SPECIAL PARTS DEPARTMENT. For use in the assembly of textile machinery, the company made 3,500 types of standard parts. It was necessary also to make about 500 kinds of special parts according to specifications which differed with each order. When both standard and special parts were made in the same departments, delay, inaccuracy, spoilage, and lost time were frequent. The company decided, therefore, to create a separate department to process all special parts.²

The Hutchinson Engineering Company manufactured 20 types of winding machines for use in textile production. In each

¹Fictitious name used for purpose of disguise.

²See also Darrow Shoe Company, p. 97.

machine about 400 different parts were used, of which 350 were of standard pattern; the remaining 50 varied with the customers' specifications. By the use of the special parts the machines were adapted to meet requirements for use in individual mills.

Ten types of machines normally were in process of manufacture at one time. As a result about 4,000 different parts were being produced. Of these, 500 were made according to individual specifications which differed from any which the company previously had received. The manufacturing department, therefore, was required to produce parts for which it had no standard procedure.

Under those conditions, it was impossible to avoid frequent readjustments of machines and interruptions of production; while equipment was idle in some departments, in others machinery was operated overtime. The accurate fixation of delivery dates was difficult. Sometimes the company could not fulfil the promises of the sales force.

It was decided, therefore, to separate the manufacturing departments so that parts common to all machines could be produced at a rate consistent with expected orders. In the finished parts storeroom, balance-of-stores cards were filled out for each of the 350 standard parts. On these cards high and low limits were set which enabled the balance-of-stores clerk to place orders for new parts when the low limit was reached. A manufacturing schedule was made out so that production corresponded approximately to the orders received. When the schedule was adopted, the balance-of-stores clerk could ascertain the length of time necessary to secure additional parts; thus, the manufacture of standard parts was placed upon a uniform basis.

A special department was organized to manufacture all miscellaneous and special parts under the supervision of an exceptionally able foreman. This department was equipped with machinery which was designed for such work. It was expected that this arrangement would make possible a concentration of attention on accurate production of special parts.

It was estimated that savings were to be effected by elimination of idleness in the departments manufacturing standard parts. Discipline could be enforced with more satisfactory results. Employees not in the special department, furthermore, were expected to acquire increased speed because they would not have to read-

just their machines from time to time to produce a small quantity of special parts. These workmen, however, no longer would have an opportunity to manifest their ingenuity on new and varied tasks, whereas the men assigned to the special parts department would become highly resourceful. Another anticipated result of the plan was the elimination of confusion in the departments manufacturing standard parts. It was expected that through the selection of a capable foreman for the new department the necessary special work could be completed with a minimum loss of time and spoilage of parts.

21. THORNHILL MILL MACHINERY COMPANY¹

ASSEMBLY FROM FINISHED STOCK. Machines were built up by the assembly department from stocks of finished parts after orders were received.

PRODUCTION INSPECTORS. Parts for assembly were manufactured and placed in a storeroom after they had been passed by production department inspectors who were responsible to the foreman in the production department.

INSPECTION RESPONSIBILITY. The assembly department was hampered by the frequent issue of imperfect finished parts. To obviate this difficulty, the company decided to make all production department inspectors responsible to a chief inspector who should be subordinate to the superintendent of the assembly department.

The Thornhill Mill Machinery Company did not assemble machines until orders were received for them. Finished parts were kept in stock and issued from the storeroom on requisition from the assembly department.

Since the work of the assembly department was hampered frequently by the issue of imperfect parts from the storeroom, controversy arose as to where the responsibility should be placed. The assembly superintendent wished to hold the head stock-keeper solely responsible for issuing perfect parts.

In addition to a general superintendent, the factory organization included a factory superintendent, an assembly department superintendent, and a head store-keeper, each of whom was responsible directly to the general superintendent. In the factory each department was in charge of a foreman, who was immedi-

¹Fictitious name used for purpose of disguise.

ately subordinate to the factory superintendent. Each foreman was accountable for the output of his department, both as to quantity and quality. The inspectors in each department of the factory were responsible to the departmental foremen.

Balance-of-stores sheets were maintained in the storeroom for all finished parts in stock. Minimum limits were determined for each item, and the storeroom clerks sent orders to the factory for additional supplies whenever the stock of any item reached the minimum limit. In this way, factory production was governed by orders from the storeroom. The assembly department requisitioned finished parts only after machines had been ordered by customers. Since the inspectors were under the authority of the foremen, it was difficult for the assembly department superintendent readily to enforce remedial measures when inspection appeared lax, as measured by the number of defective parts delivered for assembly.

The storeroom clerks were sufficient in number to perform only their regular work. Their lack of training and of experience in mechanical technique prevented them from becoming satisfactory inspectors. It was inadvisable, furthermore, to have inspections made in the storeroom, because of the limited space available and the interference with stock-keeping routine. When the question came to the general superintendent, therefore, he decided that the stock-keeper should not be required to accept any responsibility for the inspection.

Under the existing method of inspection, however, it appeared difficult to make inspection in the manufacturing departments sufficiently rigid to prevent delivery occasionally of imperfect parts to the storeroom.

The general superintendent then discussed the advantage of an inspection department, in which all inspectors, although remaining at their posts in the factory, should be responsible only to the assembly superintendent through a chief inspector. Despite the risk of friction between the departmental foremen and the inspectors, it was deemed that greater care in inspection was likely to be exercised if each inspector realized that all parts which he passed would be checked in the assembly department before leaving the factory, and that his responsibility no longer was terminated when parts were delivered to the storeroom.

This plan gave the assembly superintendent full power to make

effective such rules as he considered necessary to preclude the delivery of defective parts to the storeroom. Through the chief inspector, the assembly superintendent had an opportunity to issue instructions in regard to methods and standards of inspection. He could stress also the importance of quality, in contrast with quantity. The head stock-keeper thus was relieved from any accountability for the quality of parts received and issued, and could give his entire attention to storeroom duties without being made a party to controversies over the quality of parts in stock. At the same time this arrangement was expected to stimulate the departmental foremen to supervise more closely the performance of their workmen in order to maintain a satisfactory rate of output with a minimum of defective parts.

The general superintendent was convinced that the benefits to be gained from the establishment of separate inspection responsibility outweighed in importance the possibility of friction between the inspection department and the manufacturing departments. The plan, therefore, was adopted.

22. WAINWRIGHT CANNING COMPANY¹

PERISHABLE MATERIALS IN PROCESS. The company canned fruits and vegetables, purchased from near-by farmers. These materials deteriorated rapidly unless processed promptly after receipt.

MACHINE BREAKDOWN. In 1922 a loss of \$1,000 was incurred because of a one-day breakdown of a cherry-pitting machine.

EMERGENCY MACHINE. The company decided to purchase an extra cherry-pitting machine at a cost of \$1,300, in order to insure a continuous flow of work in process.

(1923)

The Wainwright Canning Company owned a canning factory in which it preserved cherries, beets, rhubarb, apples, and other fruits and vegetables. During the cherry season in 1922, the company incurred in one day a loss of more than \$1,000 through the breakdown of one of its automatic cherry-pitting machines. As a result, in the spring of 1923 the accountant of the company suggested to the factory manager that the company should purchase an additional machine for emergencies.

¹Fictitious name used for purpose of disguise.

Both sweet and sour cherries of several varieties were preserved. They became ripe during the later part of June and the first portion of July. The period during which they were suitable for canning varied from 10 days to several weeks, according to weather conditions.

When the first cherries had ripened sufficiently for preserving purposes, the company announced throughout the adjacent farming district the prices at which it was willing to receive deliveries of each grade of cherry. During the subsequent canning period daily prices at the factory were based upon market quotations from neighboring cities. The company had operated its factory for many years, and the farmers in the vicinity regularly took cherries in trucks or wagons to the factory platform. There the cherries were weighed, and the farmers were paid in cash at the day's price for their fruit.

After having been weighed, the cherries were held in baskets on the receiving platform. If they were not to be used the day that they were received, they were placed in vats filled with cold water to prevent spoilage for one or two additional days. Whenever possible, the company preserved each day's deliveries without delay. When several days of unusually warm weather occurred, it frequently happened that the cherries became so ripe before they were picked that it was impossible to keep them more than a few hours without rapid and almost complete deterioration. It was usually the practice of the Wainright Canning Company to preserve only one kind of fruit or vegetable at a time. During the cherry season, therefore, the entire plant was devoted to canning cherries.

The factory was laid out so that the cherries were carried by hand in baskets from the receiving platform to a room in which were three picking tables, a sorter, two automatic pitters, and two tables on which the pitted cherries were placed in the cans in which they were to be preserved. When first received in this room, the cherries were emptied from the baskets into feeders which were located at the ends of the three picking tables. Endless moving belts, which passed at one end of the tables beneath the feeders, traveled slowly down the centers of the tables. The cherries dropped in a steady flow upon the belts and were carried down the middle section of the tables. Four women sat at each side of each table and inspected carefully the cherries passing

before them on the moving belts. These women picked up handfuls of the cherries and removed the stems before returning the cherries to the belt. The stems were dropped through slots at the sides of the tables. It also was the duty of the women to discard all cherries which had spoiled or had been mangled, or which were too small to be suitable for preserving.

Buckets placed at the ends of the picking tables received the cherries from the endless belts. The buckets were collected at regular intervals by men who dumped the contents into a cherry sorter. The latter machine was arranged so that by a series of sieves any small cherries which might have escaped the women at the picking tables were eliminated. Those which remained were passed also through a water bath from which only those which floated could be drawn off. Imperfect cherries sank to the bottom of this bath and did not continue further in the preserving process.

From the sorting machine the sound cherries were transported in baskets to one of the automatic pitting machines. The pitting machine received the sound cherries in a funnel-shaped feeder. From the feeder the cherries fell into a large cylinder which revolved slowly and which at one point on its circumference allowed steel pitters to be forced through each cherry. The pits were carried off by gravity to waste buckets, and the pitted cherries were fed continually into baskets. The only hand labor involved was in pouring the sorted cherries into the feeder and in removing the baskets of pitted cherries and the buckets of pits. The complex mechanism of this machine, which provided that each cherry be placed in a small individual holder so that the pit should be pushed out at the proper angle, was such that the speed of the machine could not be increased above the normal rate without danger of disturbing its accuracy. A pitting machine of the size and model used by the Wainright Canning Company was capable of pitting one ton of cherries per hour.

As rapidly as the baskets were filled with pitted cherries, men carried them to the two tables around which sat a group of women who packed the cherries into cans by hand. Both these packing tables were situated adjacent to a moving belt on which the filled cans were placed. This belt passed through an opening in the wall of the room into another larger section of the factory in which the final processes were completed. At one

point the cans were removed from the moving belt by a semi-automatic machine, which poured into them a steaming sugar syrup. From the syrup machine the cans again were placed upon a moving belt and passed through a 15-foot long enclosed wooden box in which live steam circulated and commenced the cooking process. From the far end of this wooden box the cans moved on the same belt to machines which automatically sealed tops on them. The cans then were placed by hand in lots of several dozen in steel-wire trays and immersed in boiling water for a period of about 15 minutes. Subsequently they were cooled in vats of cold water in order to stop the cooking process. After having been cooled they were ready to be packed in wooden boxes for shipment.

The tables, machinery, moving belts, cooking, and cooling vats had been arranged so as to insure the routing of fruits and vegetables in the most direct manner from one process to another. There were minor variations in the order in which fruits and vegetables were processed, but since only one material was canned at a time, there was no need of having a specific planning or routing department. Supervision over all processes was maintained by the factory manager or his assistant, one of whom moved continuously from one point to another in the factory during working hours. As a result, the successful operation of the factory depended upon continuous flow of work from one process to the next. An interruption at any point caused the entire mechanism of the factory to be thrown out of balance. Delays in the flow of materials caused partial or complete loss of time by the 50 or 60 employees. Such delays also were likely to cause additional and heavier losses through the deterioration of materials. It was these circumstances which caused the loss of more than \$1,000 in one day during the summer of 1922, when one of the two cherry pitters completely broke down. Although the second pitter continued to operate, the flow of work was reduced one-half, with a consequent loss of direct labor and overhead costs, as well as a spoilage of several tons of cherries during the period of the breakdown.

The pitter could not be repaired until 10 hours had elapsed. The construction of the machine made it necessary in instances of serious mechanical defects to send for a skilled mechanic who represented the manufacturer of the pitting machine. This

manufacturer maintained representatives in each center of canning activity. Each representative was trained to make all repairs on the pitting machines, but his services frequently could not be obtained until several hours or sometimes an entire day had elapsed. Although the town in which was stationed the representative nearest to the Wainwright Canning Company's factory was only 15 miles distant from the latter, there always was the possibility that the repair man might have been called to another canning factory to make similar repairs. In the rural districts these representatives were equipped with automobiles in which to travel from one factory to another. They carried with them complete supplies of parts.

When a breakdown occurred in the factory of the Wainwright Canning Company, it was impractical either to use the unoccupied employees for other temporary work or to lay them off for a half-day or more. The latter course was inadvisable for two reasons. In the first place, it was never certain how much time would elapse before a machine could be repaired. In the second place, the employees were accustomed to working full days, often as long as 10 or 12 hours, and to lay them off because of defective machinery interfered with internal discipline and factory morale.

It was impossible for the company to employ continuously a mechanic who possessed sufficient training to make all repairs on the cherry-pitting machines. The manufacturer of the machines provided thorough instructions in repair work only to his own employees. The latter received a compensation which the Wainwright Canning Company could not afford to pay, since the cherry season lasted at most only a few weeks and a man with the necessary training could not be used advantageously during the rest of the year.

The pitting machines were sold for approximately \$1,300 each, and the factory manager decided that the advantages to be secured from the purchase of an additional machine were sufficient to justify the installation of a third pitter. An increase in the capacity of the factory for canning cherries was not expected, and consequently the third machine was only for use when either of the other two should break down. It was the company's experience that the cherry-pitting machines ordinarily broke down only after many hours or days of continuous usage. The probability of a breakdown of the reserve pitter in an emergency,

therefore, was slight, because it was to be used only until the defective machine had been repaired.

Although the factory manager realized that the machine might be used only once or twice during the entire year, he decided that it should be purchased in order to guarantee a continuous flow of work through the pitting process. After installation was completed, the initial cost of the machine was entered in the inventory of factory equipment, and carrying charges were included with those of all other machinery in the plant.

23. BECKWELL MACHINE COMPANY¹

TOOL PURCHASES. Tools in the manufacturing departments were under the complete control of the tool-room keeper. He issued, repaired, and stored tools, and was expected to maintain adequate reserves. At one time he failed to replenish the supply and then ordered new tools in excess quantities. Temporarily restricted output and high unit costs resulted.

CONTROL OF TOOL STOCKS. The company decided to transfer to the finished stock storekeeper the responsibility for maintaining adequate reserve stocks of tools by means of balance-of-stores sheets.

During one month, the Beckwell Machine Company, which produced textile machinery, experienced high unit costs in several manufacturing departments because a lack of necessary tools restricted the output of parts. The attention of the executive staff, therefore, was directed toward finding a suitable method of maintaining adequate stocks of tools.

The tool-room keeper had charge of all tools used in manufacturing machines and parts; these tools were kept in bins with false bottoms under which reserves for emergencies were stored. The tool-room keeper, who was an expert toolmaker, was responsible for keeping the tools in good condition and for placing orders for new ones as they were needed. He gave his entire time to storing and conditioning tools and to issuing them to workmen on requisition. He kept no records to show the number of tools that should be ordered, but relied upon his memory and judgment. The results obtained had appeared to be satisfactory. Since the performance of routine work required his

¹Fictitious name used for purpose of disguise.

entire time, the executives deemed impracticable any plan of making him responsible for clerical duties.

During the month when unit costs had been above normal, an exceptionally large order for machines had been placed. The tool requirements for this order had exhausted the normal supply in the tool-room and also depleted the reserves. The tool-room keeper previously had allowed the number of available tools to be decreased to a greater extent than was customary, and had been unable for that reason to fill requisitions promptly. In order to avoid another shortage, he had ordered tools to build up his reserves and to replenish the supplies in daily use. The tools ordered were delivered during the month and charged to the various departments. This procedure further increased the departmental costs and consequently the unit costs for the month. Investigation showed that similar delays in manufacture and fluctuations in costs had been caused several times previously in the same manner.

To avoid a recurrence of this situation, the supply of reserve tools was removed from the tool-room and placed in the finished stock room under the control of the store-keeper of finished stock. Balance-of-stores sheets were filled out for these reserves and provision made for ordering tools when specified minimum limits were reached. Under this plan, the tool-room keeper was expected to give his entire time to issuing and conditioning the tools that were in constant use. The store-keeper of finished stock had been trained to watch the specified minimum limits on all articles under his supervision and was, therefore, qualified to decide when to place orders for additional tools. The tool-room keeper, furthermore, could not give out any reserve tools without requisitioning them from the store-keeper of finished stocks, who then would place orders for new tools. Under the former system, the tool-room keeper had been able to use reserve supplies when it seemed expedient without placing orders for additional tools.

By transfer of the responsibility for maintaining supplies of tools from the tool-room keeper to the store-keeper of finished stock, a check was established on the use of tools, which, the management expected, would free the production processes from further costly delays arising from this source. The change, therefore, would contribute toward maintaining a more completely economical balance of production facilities.

24. LAFOLLEY ELECTRICAL MACHINE COMPANY¹

PURCHASES FROM AUXILIARY PLANT. All castings used by the company in the assembly of its machinery were made by an adjacent foundry which was owned by the company but operated separately. Complete sets of purchasing, receiving, and stock-keeping records were used for foundry orders. The purchasing department placed the foundry orders in the same manner as it placed outside orders.

SIMPLIFICATION OF PURCHASING ROUTINE. Since the company owned the foundry, the management decided, in order to minimize clerical and rehandling work, that the production manager should order all castings directly from the foundry.

For the manufacture of castings to be used in assembling its machines, the LaFolley Electrical Machine Company in 1914 erected a foundry a few hundred feet distant from the factory where the main production processes were carried on. The management decided to operate this foundry as a separate unit, in order to secure accurate unit costs of foundry operations, and in order to give the foundry superintendent complete authority over its operations.

As a result of this policy, the factory purchasing department was instructed to make out purchase orders for castings required from the foundry in the same way as for materials purchased from outside sources. After this plan had been followed for four years, the purchasing agent reported that the system of ordering castings from the foundry was too complicated and recommended that the paper work involved should be reduced to a minimum to secure quicker deliveries and to reduce clerical expenses.

Under the plan then in use, when an order for castings was completed by the foundry, it was delivered by truck to the receiving clerk at the factory and handled in the same way as other materials received. In the LaFolley Electrical Machine Company, storerooms for raw materials and finished parts were controlled by a perpetual inventory system under the direction of the chief stock-keeper; in his office were maintained balance-of-stores sheets for each material and part that the company used. The balance-of-stores sheets provided for entries to show for each item the quantity ordered, apportioned to each shop order, received, delivered to the factory for process or assembly, and the balance on hand. Information regarding receipts and deliveries

¹Fictitious name used for purpose of disguise.

to be entered on the balance-of-stores sheets was supplied by stores clerks in the storerooms from the bin cards, on which were shown all receipts and deliveries of materials and parts. When stock clerks in the storerooms noted that the balance on hand of a part or material was approaching the specified minimum, information to that effect was sent to the chief stock-keeper, who then approved a requisition on the purchasing department for an additional supply of the part or material. Through issuance of shop orders and routing instructions the planning department controlled assembly operations and the routing of goods in process.

The steps that were performed from the receipt of a customer's order to delivery of castings to the factory were summarized from the company's instructions as follow:

1. When machines were ordered by customers, shop orders for their construction were made out by the planning department; and all shop orders calling for castings were apportioned on the balance-of-stores sheet by the chief stock-keeper.

2. When a stores clerk noted that additional castings were required, the requisition for the purchase of castings was written, approved by the chief stock-keeper, entered on the balance-of-stores sheet, and sent to the purchasing agent.

3. A purchase order was made out by the purchasing agent in five copies. (1) The original was signed and sent to the foundry. (2) The second copy was placed in the book of purchase orders. (3) A follow-up copy was filed in a tickler. (4) The fourth copy, after being checked with the book in which the purchasing agent kept copies of all requisitions, was sent to the chief stock-keeper to be filed. (5) The fifth copy also was sent to the chief stock-keeper, who checked it with the balance-of-stores sheet, at the same time entering on the sheet the purchase order number; this copy then went to the receiving department, where it was filed awaiting the receipt of the castings.

4. After the shop order had been apportioned on the balance-of-stores sheet, it was returned to the planning department, where a stores issue slip was written calling for the delivery of castings from stores to the departments where they were to be processed or assembled. This stores issue slip was sent to the chief stock-keeper.

5. After the castings had been made, the foundry delivered them to the receiving department, accompanied by a shipping memorandum.

6. The foundry sent its invoice to the purchasing agent.

7. The purchasing agent approved the invoice and sent it to the balance-of-stores auditor.

8. The receiving clerk checked the receipt of the castings, made out

a notification-of-material-received slip, recorded the information on his copy of the purchase order, and delivered the castings with the notification-of-material-received slip to a stores clerk.

9. The stores clerk stored the castings in a bin, entered the quantity on the bin card, and sent the notification-of-material-received slip to the balance-of-stores auditor.

10. The balance-of-stores auditor checked the notification-of-material-received slip with the invoice.

11. A balance-of-stores clerk entered the quantity and price on the balance-of-stores sheet from the invoice.

12. The notification-of-material-received slip was sent to the purchasing department, where it was recorded and filed.

13. The stores issue slip was sent from the chief stock-keeper to a stores clerk, who had the castings counted from the bin and delivered to the factory, at the same time entering the deduction on the bin card.

14. The stores issue slip was sent back to a balance-of-stores clerk by whom it was posted, priced from the balance-of-stores sheet, and sent to the cost department.

15. The bin card was sent to a balance-of-stores clerk to be checked with the balance-of-stores sheet after the castings were delivered to the factory.

The castings used by the LaFolley Electrical Machine Company in the assembly of machines were divisible into two general classifications. In the first classification were all castings that had to be placed in stores. These were standard castings which were used in a majority of the machines sold by the company. Since these castings in all cases required further manufacturing processes before being available for assembly, it was necessary to establish minimum stock limits for them to prevent delays in the assembling of standard machines. The second classification included all castings which were complete when delivered by the foundry and could be assembled without undergoing further manufacturing processes. Orders for these castings were originated by the production department for special machines in process, but were handled in the routine manner.

In order to eliminate the bulk of the paper work entailed by the existing system, the management decided that the chief stock-keeper should notify the production manager in the planning department when the supply of castings had to be replenished; the production manager then should place orders directly with the foundry for the castings required. He also should order directly all special castings. In this way, the purchasing depart-

ment was relieved of all responsibility for placing orders with the foundry. The foundry superintendent was to report directly to the production manager the unit costs and the time required for deliveries. In accordance with this decision, the elaborate paper work necessary under the former plan was discontinued, and a requisition form substituted, which was made out in duplicate by the production manager. Both copies were sent to the foundry; one was a requisition for the castings and was to be forwarded later to the receiving clerk at the factory when the castings were delivered, the other was sent to the factory cost department after the value and quantity of the castings had been entered at the foundry.

On the requisition forms were shown the type and number of castings required and whether they were to be delivered to stores or to a manufacturing department for processing. All castings in the first classification were delivered to stores and carried on the balance-of-stores sheets until issued. Castings of the second classification, however, were requisitioned for jobs in process and delivered directly to the production department where they were needed. In the former instance, the stores account was debited, and in the latter instance the job in process was debited. The debits and credits were made by the cost department in the same manner as for purchased materials. At the end of the month, the foundry was credited, at unit prices determined by the foundry superintendent, with the total value of castings delivered during the month either to stores or to manufacturing departments for processing.

The adoption of this plan reduced by two-thirds the number of clerical operations and secured the advantage of causing castings of the second classification to be delivered directly to the manufacturing departments. The castings that were delivered to stores were handled physically in the same manner as previously, but with minimum clerical expense. The identity of the foundry was maintained separate from that of the factory, but the purchasing department no longer had to devote its time to the clerical details of transfers from the foundry to the factory. In making this change in the method of ordering castings from the foundry, the management deemed that the company would gain more completely the benefits to be derived from its investment in the foundry.

25. SNELLING MACHINERY COMPANY¹

PRODUCTION SCHEDULES—PLANNING DEPARTMENT. The company manufactured specialized textile machinery. The planning department scheduled factory work by means of job tickets and planning boards operated by the foreman of each department. Production delays occurred frequently because the foremen neglected the planning-board operations and failed to route rush orders accurately.

PRODUCTION CONTROL—FACTORY PLANNING BOARDS. The company decided to deprive the foremen of all control over the planning boards, and to assign to the boards men trained in the planning department.²

Approximately 30% of the parts used in the production of the specialized textile machines manufactured by the Snelling Machinery Company were made in the company's own factory. The production schedules for these parts were controlled by a planning department previously developed in accordance with the Taylor system of scientific management.

The work of the planning department, which scheduled the production of all parts before they were ordered into process, required for its success full coordination with the manufacturing departments. Factory foremen were responsible for attending to the clerical work required in their departments for the operation of the planning-department schedules. Frequently foremen, because of the press of other work, did not give prompt attention to their clerical duties and the consequent delays and stoppages in production schedules made it apparent that a more effective coordination of planning and manufacturing functions had to be secured.

Under the existing system, the planning department was notified of all orders received from customers; it also had descriptions of every production machine in the factory and instructions for its operation. In this department, long racks were provided in which were compartments, divided into three sections. There was a separate compartment for each machine in the plant. All machines bore numbers which indicated their locations in the factory. Each compartment in the planning department was numbered to correspond with a machine, and was designed to hold duplicates of the job tickets assigned to the machine. In

¹Fictitious name used for purpose of disguise.

²See also Opal Knitting Mills, p. 128.

the first section of a compartment was placed the ticket for the parts actually in process on the machine. In the next section was the ticket for the job scheduled to be started next, and in the third section were the tickets for future jobs.

When orders were received, the planning department made out triplicate job tickets for each machine through which the parts necessary to complete the order were to be routed. The same method was used in scheduling the production of parts to be placed in finished stock.

In each production department there was a shop bulletin board on which were individual spaces and numbers for all machines in the department, corresponding to the racks in the planning department. In the space under each machine number on the bulletin board, there were three hooks to hold the job tickets for that machine. These hooks were so arranged that the job ticket for parts actually being processed by the machine was hung directly under the machine number, the job ticket for the next job below that, and on a third hook the tickets for subsequent jobs.

The triplicate of the job ticket in each case was given to the workman, becoming part of the labor record on the job. It was the function of the planning department to schedule the work to be done on incoming orders in such a manner that all machines in the factory were given approximately the same amount of work, in order to avoid undue idleness of individual machines. Since the time needed for each operation was shown on the machine instruction cards, furthermore, the planning department, after scheduling the work, was able to estimate the approximate date on which an order should be completed. The orders received from customers were recorded on individual sheets, to which were posted the times of beginning and finishing on each successive machine used in completing the order.

When the operator of a machine completed a job, he reported to his foreman. The foreman then removed from the shop bulletin board the tickets both for the job just finished and for the job next to be started. He sent these two tickets to the planning department by messenger. The planning department stamped the time finished on the first ticket and the time started on the second ticket, and returned the second ticket to the foreman to be placed on the first hook under the given machine number on the department bulletin board. The planning de-

partment then authorized the inspection of the job just completed and specified to what machine the material should be moved for the next process. The tickets in the planning-department racks were changed accordingly; postings were made to the individual order sheet; and the tickets for the completed job were filed for reference. By this method the planning department was able to control the routing of all orders in the plant.

Whenever customers requested that machines, parts for which already were in process, should be delivered at an earlier date than originally specified, as happened with about 20% of the company's orders, the planning department did not make out a new set of job tickets, but attached red tags to the job tickets already on the shop bulletin boards. These red tags indicated that the job tickets to which they were attached were to be given precedence over the ordinary tickets. The work on red card jobs involved additional supervision by the foremen because the order of work on them was not specified by the planning department; after a red tag was placed on a ticket, it became a matter of individual judgment on the part of the various foremen as to how the order could be completed most promptly.

It developed that in actual practice foremen in the manufacturing departments needed to spend from a quarter to a half of their time in handling job tickets on the shop bulletin boards. This detracted from their work of supervising the actual machine processes, and, furthermore, the planning department experienced difficulty in securing prompt and accurate handling of the job tickets. The manager of the planning department consequently proposed that he be allowed to assign men from his department to handle the work at each shop bulletin board. This change would allow the foremen to devote their entire time to supervising their men and machines, at the same time insuring immediate and careful attention to job tickets. Also, these planning-department men could be relied upon to give special emphasis to the red tag orders and route them through the departments more expeditiously. An obvious disadvantage of this plan was the expense involved in increasing the staff of the planning department. There was also the risk of appearing to undermine the authority of the foremen, because of relieving them of all control over routing. The effect upon the workmen could not be estimated. The foremen, themselves, gradually had realized

the desirability of a central production control, however, and were expected to accept the change without protest.

The managers decided to accept this proposal because they viewed the duties of handling job tickets on the bulletin boards as belonging properly to the planning department. The new plan allowed the foremen to give their entire attention to the work for which they were trained and made it possible for the manager of the planning department to maintain absolute control over all the functions of his department throughout the plant. No friction between the factory foremen and the planning-department representatives was anticipated, because the foremen understood that the planning department had complete authority to control work in process. The elimination of possible delay and uncertainty in handling job tickets in the production departments was considered of more than sufficient importance to offset the expense of additional planning-department clerks.

26. OPAL KNITTING MILLS¹

PARTIAL PRODUCTION CONTROL. The method of controlling production of underwear in the mill required excessive clerical work but did not regulate accurately the routing or processing of orders.

PRODUCTION CONTROL THROUGH FACTORY PLANNING BOARDS. The company decided to install planning boards and clerks at several production centers, and to use a triplicate form of production ticket which, in connection with the planning boards, permitted adequate control of manufacturing operations.²

(1923)

The Opal Knitting Mills manufactured underwear from 100 fabrics, in 12 styles of 8 sizes each. Of the company's 650 employees, 85% were women. There were 8 factory departments: winding and knitting; bleaching and drying; cutting; flat lock; finishing; pressing and ribboning; inspection and folding; and packing.

The method used to trace work in process proved unsatisfactory to the production manager because it required wasteful clerical work and did not afford adequate control. He proposed,

¹Fictitious name used for purpose of disguise.

²See also Snelling Machinery Company, p. 125.

therefore, to install a system used successfully by a similar mill in the planning and controlling of operations.

Throughout January, February, and March, salesmen took orders for fall delivery. Manufacture of the products commenced in November of the preceding year. In order to schedule quantity production, the company assumed 50% of its sales for fall delivery to be the same in fabric, style, and size as those of the preceding year. Orders for immediate delivery were manufactured at the same time. As the orders for fall delivery were being received, the company noted any change in the demands for fabric, style, and size that might indicate an important shift in customers' requirements; the production schedules were modified accordingly.

As guides for the production manager, tally sheets of the preceding year's sales were provided. With these as a basis, he issued production orders to the knitters. After the material had been knitted and bleached, production orders were issued to the cutters, who cut the webbing, tied the garments in bundles of a dozen, and placed with each a small tag upon which were printed the name of the garment and a list of the operations to be performed. The cutter then put the bundles of cut cloth into cases or trucks, which were wooden boxes 4 feet long, 2 feet wide, and 3 feet deep. These were moved from one production center to another by the operators, who knew by the type of the garment and the tag the sequence of operations. As each worker finished her operation on a bundle, she clipped off the part of the tag which listed the number of pieces, and pasted it in a coupon book. Piece wages were paid each operator according to her coupon book. The work in the winding and knitting, and bleaching and drying departments did not vary with the order numbers. Each lot of material was processed as a whole, and a continuous flow of product was maintained by the foremen. The cutters took the whole cloth and cut it according to the styles and sizes needed for each order.

In order to record the progress of orders in manufacture, the overseers listed the numbers of the cases which were completed in their departments. This information was sent daily to the production manager's office and there was classified according to fabric and entered in the Progress Book. At the top of each page was written the name of a fabric. The six columns into which

each page was divided recorded the production order number, the number of the case, the description of the garment, and the dates when the order had passed each of three designated routing points.

Production orders were issued in numerical sequence and were recorded in the same manner in the Progress Book. They did not pass through manufacture in this order, however, because the number of operations on a garment varied according to styles and sizes. To enter subsequent information, clerks sometimes had to look through as many as 10 pages of the book to find the original entry. The multiplicity of orders thus caused a waste of time. Since operators were paid piece wages, furthermore, and were allowed to select orders upon which to work, they invariably chose those which were most remunerative. As a result, many orders were delayed or lost. In December, 1921, the annual inventory disclosed a quantity of unfinished orders that had been set aside by operators during the year.

In the production manager's opinion, there should be control over each order from one operation to the next after the pieces had been cut and bundled. The system proposed was as follows. For each order, it required the use of three, 3-inch by 5-inch job tickets and a production order, all to contain the same data. The production order ticket already in use could be retained; this was a white card 6 $\frac{3}{8}$ inches by 3 $\frac{1}{8}$ inches, illustrated below, in Form 16.

The data with the exception of cutter and truck number were

OPAL KNITTING MILLS

Number 7213

Truck Number

Date

Cutter Number

Season

Tag

Style

Sleeve

Size	0	1	2	3	4	5	6	7	8	9
Doz.										

Remarks:

O.K.

Form 16: Production order ticket

supplied in the production manager's office. The cutter number was supplied if the work was designated for an individual; otherwise the worker himself entered his number. The truck number was entered by the cutter after he knew which truck was available.

The original job ticket was to be on white paper, one copy on yellow paper, and another on buff paper. The original and first copies were for use on three planning boards to be erected at central points in the factory. It was provided that three planning boards be used in the mill, each to control a separate group of operations, and so placed that each order would pass through all operations controlled by one board before the order was passed on to the next board. Thus a planning board would be readily accessible to each group of operators. The buff card was to be filed in the production office.

The planning boards were frames, each 3 feet by 5 feet, provided with 100 pockets arranged in 5 rows of 20 pockets each. Each pocket represented an operation according to style, size, and fabric. For example, an infant's garment required 5 operations, whereas a man's union suit required 29 operations; only one or two of the operations were the same for both units.

After a cutter had finished work on an order, he sent the buff card to the production office to be filed in a box containing seven compartments. As previously, the numbers of all orders that passed through each department during the day were listed. The buff cards in the production manager's office were resorted daily into more advanced pockets in accordance with these lists of order numbers. The approximate location of any order in process thus could be determined. The cutter sent the yellow and white copies to a planning-board clerk who clipped the two together, with the yellow copy on top, and placed them in the pocket representing the next operation. The tickets in the pockets were arranged according to the numerical sequence of the order numbers.

Before an employee started on a new order, she reported to the planning-board clerk who controlled the operation. This clerk gave the operator the yellow job ticket of the next order to be finished. This contained her instructions as to the order and truck numbers. Upon completion of that order, she moved the truck to the next operator and returned the yellow card to the

planning-board clerk, who clipped it with the white copy with the yellow one on the outside, and placed the two in the pocket representing the next operation. When all operations in that group were finished, the truck and the planning-board tickets were sent to the next planning-board group. The production office was connected by telephone with each planning-board clerk, so that instructions as to emergency and special orders could be transmitted and made effective immediately.

Inasmuch as this took away from the operators the privilege of selecting work, it was likely to incur their opposition. The order in which cases were given to the operators was controlled constantly by the planning-board clerk in accordance with instructions. Since the buff cards were filed in the production manager's office, the Progress Book could be eliminated. Such a file made it possible also to remove completed cards, so that those left represented only orders in actual process. The expense of training planning-board clerks was likely to be negligible in comparison with the advantages of exact control over the sequence and location of operations on each order. The production manager decided, therefore, to install the system.

Two complaints were made by the operators. The first was that they lost time by having to report often to the planning-board clerks, when the orders were for small quantities. The second was that their earnings were less because they were not allowed to choose their work. The first objection was overcome by the issuance of two orders at once, and the second, by assignment of a remunerative order with one that was less lucrative to the worker.

As a result of the new system, loss of orders in process ceased, and output was increased 15%. Shipments to customers also were made more promptly.

27. FELBER ELECTRIC COMPANY¹

2 H B R 1118

INTERDEPARTMENTAL DELIVERIES. Interdepartmental deliveries of parts and deliveries of products as finished stock to the general office were billed at actual costs.

BIDS ON SPECIAL ORDERS. On special apparatus, bids based on estimated costs were submitted to purchasers through the general office, which

¹Fictitious name used for purpose of disguise.

added percentages for general expense and sales expense to cost estimates obtained from the production cost accountants.

INTERDEPARTMENTAL BILLINGS. The company decided to reject a proposal that each department bill deliveries of parts and finished products at cost plus a manufacturing profit, because that procedure might conceal erroneous individual estimates and result in an unwarranted increase in selling prices.

The plant of the Felber Electric Company included 11 production departments and a general office, each in a separate building.

The growth of the Felber Electric Company and the varied nature of its products made possible two methods of accounting for manufacturing profits. The company's practice was to bill interdepartmental deliveries of parts and deliveries of finished products to the general office for shipment, at actual cost without profit. The general office then added a percentage for general and sales expense and for the company's profit. The management reviewed this procedure, however, because of a suggestion that each manufacturing department should act as a complete unit which made profits on its billings to other departments and to the general office. Under that method, total profits of the company were to be shown only by the manufacturing departments.

Five departments manufactured standard parts for delivery to the other six departments, each of which specialized in the assembly of one general type of product. The assembling departments also produced unusual parts as required.

More than half the company's products were made according to customers' specifications and could not be assembled prior to the receipt of orders. The orders frequently were secured on the basis of competitive bids. Orders for stock apparatus were billed to the general office at cost to be rebilled to sales distributors.

There were two groups of accountants in the Felber Electric Company's plant. The general accountants in the main office building were responsible for company contract accounts, district and sundry accounts, disbursements, receipts, and statistics. The cost accountants were located in the manufacturing departments. The cost accountants calculated the manufacturing costs of materials listed on bids to be submitted by the company, and determined the actual costs of all products when completed.

When a customer requested a bid, his specifications were checked by Felber Electric Company engineers, who sent detailed plans of the required apparatus to the cost accountants of the department or departments which specialized on the required products. The factory cost accountants estimated the factory costs involved, and the production division of the manufacturing department added a delivery date. Under the system of billing products to the general office at cost, an estimate of factory costs was forwarded to the general accountants.

Operation of the manufacturing departments on a profit basis offered the advantage of promoting competition among them. This, in turn, would inform the general management as to relative departmental productivity and the qualifications of departmental officers, who might become general officers. To show departmental net profits, furthermore, would indicate whether or not the cost estimators in the aggregate were reasonably accurate; if losses appeared on the departmental profit and loss statements, an investigation of the causes could be made. If the total net profit of any department, however, appeared satisfactory, the general executives were not likely to interfere. The method of showing departmental profits, therefore, provided a check on total profits rather than on individual orders.

Addition of profits to bills for interdepartmental deliveries would have risked incorrect and abnormally high profit calculations, because several departments contributed parts used in the assembled equipment, and the proposal was to allow departments to determine their own profits. If all departments competed to show high manufacturing profits, the ultimate prices of merchandise were likely to cause marketing difficulties, unless readjusted, when competitive bids were made. Internal friction and loss of central control over costs seemed the probable results.

Operation of all the departments as a single organization, however, with billings made to the general office at cost, reflected the actual situation in that the departments were divisions of one company. The general office accountants compared the actual and estimated costs of each order as soon as deliveries of the completed products were made. If the bill were lower than the estimate, the general office had evidence either that the cost accountants had made their estimate too high, to the possible detriment of the company's sales, or that production methods

had been improved. Censure because of wide divergence between estimated and actual costs of individual competitive orders, therefore, came immediately from the general office. According to the departmental profit plan, on the other hand, if a manufacturing department incurred a loss on an order, the loss would appear in the departmental profit and loss statement and be discovered by the general accountants only when the departmental records were audited at a later date.

Because one-half its products were made according to customers' specifications, after estimated costs had been prepared, the Felber Electric Company decided that, in order to provide immediate comparisons between estimated and actual costs, the manufacturing departments should continue to bill the general office at actual cost.

28. VITEX CHEMICAL COMPANY¹

BY-PRODUCTS SALABLE AT FLUCTUATING PRICES. In the manufacture of commercial chemicals, the company obtained by-products from the processes which yielded muriatic and nitric acid. These by-products were salable, without further treatment, at prices which fluctuated widely.

JOINT COSTS—STANDARD COSTING RATES. In order to provide constant cost factors for purposes of comparison, and to keep the identities of the products separate, the company decided to use standard rates for crediting by-products to main products.

The Vitex Chemical Company manufactured 20 major chemical products. Two of them were muriatic acid and nitric acid, which were sold for general commercial use. During the manufacture of muriatic acid a by-product was obtained in the form of salt cake, the value of which normally was about 80% of the value of the muriatic acid. Nitric acid also yielded a by-product, nitre cake, the value of which averaged 2% of the value of nitric acid. In each case no further manufacturing processes were necessary to make the by-products available for marketing. The by-products were charged to finished stock accounts into which were closed also the expenses of handling, storing, and packing them. A suitable method of cost accounting was deemed necessary. In setting up cost accounts for these major products, the company

¹Fictitious name used for purpose of disguise.

had to decide upon a suitable method of crediting the accounts for them with proper amounts representing the by-products.

One plan which could be followed was to debit the by-product accounts and credit the main product accounts at a rate based directly upon current market prices for the by-products. Since the manufacturing accounts were closed each month, the adoption of this plan involved the use of the average market price for the month as the figure at which to credit the main product accounts. The market prices of the two by-products were subject to wide fluctuations from month to month. These commodities were used chiefly in the manufacture of textiles, and their prices varied with the volume of textile output. The debiting of the by-product accounts and the crediting of the main product accounts at a rate based upon current market prices for the by-products necessitated no additional expense; the average current rate could be used as readily as could a standard rate. The use of the current price meant, however, that the main product accounts were to be credited each month at varying rates for the quantities of salt cake or nitre cake produced. As a result, a variable element would be introduced into the manufacturing cost of the finished main products; the cost data then would not permit month-to-month comparisons of the actual costs of manufacturing the main products. By the adoption of the standard rate, the two main products would receive monthly credits for the by-products, and these credits would vary only with the quantities of by-products manufactured. Under such an arrangement, the manufacturing costs would yield comparable data in regard to manufacturing conditions and efficiency.

The use of the fixed rate, however, would necessitate the determination of a suitable standard based upon a fair average price at the time the standard was established. In subsequent periods, the market price of the by-products was likely to continue to fluctuate, and the by-products accounts, therefore, would show large profits in some months and slight profits or possibly losses in other months.

Under this plan, profit and loss accounts of the main products also would be subjected to fluctuations, because of variations in selling prices of the by-products. Profits on the main products could be analyzed by comparison with the corresponding profits on the by-products whenever the company deemed such action

necessary. If the fluctuating market value of the by-products were allowed to enter into the manufacturing cost of the main products, the question eventually would arise as to which were the main products and which the by-products.

In order to secure comparable manufacturing statistics and to maintain the identity of the main products, the company decided to use the standard rate with the provision that the standard could be changed at intervals of a year or more, if there should be important changes in the market values of the by-products. This provision was expected to prevent basic changes in market prices from affecting permanently the relative profits shown on main products and by-products. The decision to use the standard rate for crediting main products and debiting by-products was made because the company wished to keep out of manufacturing costs the variations arising from the fluctuating selling prices of the by-products.

29. ASHCRAFT STOVE COMPANY¹

NEW MODELS—COSTS OF DESIGNING. Several new models were added each year to the company's line of stoves. A recommendation was made that the company set up an asset account to show investments in new designs, with a constant annual rate of depreciation.

DESIGNING COSTS CHARGED ANNUALLY AS EXPENSE. Because stove designs were continued for varying periods of time, the company decided to continue its practice of charging off all design expenses annually. The expenses of the pattern department, consequently, were distributed indirectly over the company's products.

The Ashcraft Stove Company had calculated its costs from estimates based on past experience, and had doubled direct labor and material costs in order to obtain the selling prices of its products. This method had seemed sufficient to include manufacturing overhead, selling and designing expenses, and to yield a profit. Because several owners of the company had changed their opinion in this matter, a revised plan, which collected direct costs by departments and added a percentage for overhead for each department, was adopted. It contained, however, a provision for the distribution of design expense which the company hesitated to

¹Fictitious name used for purpose of disguise.

accept. The provision was that a capital account of the investments in new designs be set up, and depreciated annually by a constant percentage sufficient to cover the cost of each design at the expiration of its period of usefulness.

In the pattern department, nine men were employed to make the patterns for new designs, which were drawn by the president of the company. The direct annual expenditures of this department varied from \$20,000 to \$30,000 per year. The inclusion of overhead expense brought the outlay of the department to approximately \$50,000. This did not include any portion of the president's salary although he was the only designer and spent one-half his time in drawing the plans. A small portion of the expense, which represented repairs on old patterns, was not chargeable to the cost of new designs. The costs in the department were dependent upon the number of new stove designs added annually. Each year two or three new models were made. It was estimated that a new stove design represented an investment varying from \$10,000 to \$15,000. The president of the company in conjunction with two other executives determined the designs to be used. The drawings of these designs were submitted to the pattern department, in which wooden patterns were made and sent to the foundry. In the foundry, castings were made from the patterns, finished, fitted, and retained for permanent usage.

The life of a pattern was entirely dependent upon the stove's popularity. A few designs had been discontinued after the third year. The company usually eliminated, as unprofitable, any model whose sales did not exceed 100 stoves annually. A larger volume than that was necessary to show a profit. Most patterns, however, were used for about 15 years before the style became obsolete. Two or three had been continued as long as 30 years.

The total cost of the pattern department, including the portion of general factory overhead allocated to that department, was charged off annually to the general factory overhead account. The pattern department cost, consequently, was distributed only indirectly to the company's products. One executive stated that occasionally a pattern was made up and a stove added to the line the continued manufacture of which would have been undesirable if the direct cost had included pattern and design charges. He advocated, therefore, allocation of those charges directly to the manufacturing costs of the models.

The company, however, deemed impracticable an attempt to distribute designing costs directly to each model, because it was impossible to forecast the length of life of a stove pattern. The executives held, furthermore, that to charge off design costs annually was a sounder practice than to maintain a capital account which represented the investment in designs. If an average life of 15 years was taken for each design and a stove was discontinued at the end of three years, it was a misstatement to have 80% of the investment in this design carried as an asset on the books and balance sheet.

30. ADVANCE STATIONERY CORPORATION¹

INSPECTION EXPENSES INCLUDED IN FACTORY OVERHEAD. Index and filing cards were made by the company in standard and special forms. In each department, inspectors' wages and the costs of the floor space they occupied were charged as overhead expense.

INSPECTORS' WAGES CHARGED DIRECTLY TO ORDERS IN PROCESS. To provide for accurate distribution and summaries of inspection costs and to relieve the manufacturing departments of large overhead charges, the company decided to charge inspectors' wages directly to orders.

DISTRIBUTION OF INDIRECT INSPECTION EXPENSES. The company decided to set up one central account for indirect inspection expenses. The expenses accumulated in this account then were distributed to orders as a percentage of the inspectors' direct wages.

(1923)

The primary operations of the Advance Stationery Corporation were conducted entirely on machines. The products were index and filing cards and equipment. Several thousand standard forms were listed; special orders also were accepted, the annual value of which exceeded that of the standard lines. To insure the maintenance of quality standards, inspections were necessary after each manufacturing process. The original accounting system provided that the wages of inspectors should be treated as indirect labor and included in the overhead charges of the various departments.

Because of the need of many wide tables on which to spread materials for examination, the expense of inspection and the

¹Fictitious name used for purpose of disguise.

factory space required for the purpose became so large that the officials of the company no longer thought it advisable to include those charges in factory overhead. The establishment of an inspection department for accounting purposes, therefore, was proposed to make possible the inclusion in one account of all outlays chargeable to inspection, except direct wages of inspectors. By this means departmental overhead expense was to be relieved of the inspection charges, and the latter allocated definitely to products on the basis of the inspection service rendered to each job.

There were four manufacturing departments in the plant. The first performed the functions of cutting and ruling paper and cardboard stock issued from the storeroom to process. In the second department, the cards and paper forms were printed according to standard instructions or customers' specifications on special orders. Celluloiding processes were conducted in the third department. Celluloid strips of varying sizes and shapes were attached to the cards and forms according to the purposes for which they were intended. In these three departments, goods in process were inspected after they had been put through each machine.

The fourth factory department provided for a final general inspection of finished products before they were packed for shipment. In the first three departments, from 25% to 50% of the total floor space was required for the tables on which inspectors examined the lots of cards after each process was completed.

There were four types of inspection service, the one used in each particular case being determined by the price fixed for the finished product. On each order the manufacturing ticket showed the kind of inspection to be applied. The highest grade necessitated a hand count and individual inspection of each card. The second required a machine count and individual inspection. In the third, a machine count was taken and a superficial inspection made. The fourth specified machine count and no inspection. Cards designed for use as permanent records were subjected to the more rigid inspections, and, conversely, cards intended for temporary usage received less careful inspection.

The inspection staff consisted of 2 foremen and from 50 to 60 girls, whose wages averaged 10% of the total factory pay-roll. Each inspector was qualified to make all grades of inspection.

By the original plan, wages of inspectors were included in departmental overhead, to which were charged also the usual expenses for space, light, heat, and other items. In order to show clearly the relative costs of actual production and of inspection service, it was decided that an account be set up and named "Inspection Department." Into this account were charged all items of floor space, heat, light, depreciation, insurance, and taxes, which were incurred for inspection service. The inspectors in each department remained under the authority of the departmental foremen. The wages of the two inspection foremen were included in the inspection department overhead.

Wages of the inspectors were considered as direct charges against the product and were allocated to each job on the basis of actual time used. The inspectors recorded on the factory job tickets the time consumed on each job. The cost department extended this time into money value which was charged against the order. The overhead expenses of the inspection department were charged to each job as a percentage of the charge for direct wages of inspectors incurred for that job.

The company adopted the plan of accounting for inspection charges on the basis of a separate inspection department, because it was important to show both the total cost of maintaining adequate inspection, and the correct costs of individual jobs.

31. BANDAR RUBBER COMPANY¹

BOOK VALUE OF DISCONTINUED MACHINE. A grinding machine, bought by the company for \$1,000 in 1919, was broken accidentally in 1923. The machine first had been used in the waste department to grind waste rubber; later, to grind miscellaneous materials for other departments. Its sale value was negligible. Because the company planned not to repair the machine, its book value had to be adjusted.

ACCOUNTING FOR DISCONTINUED MACHINE. The company decided to write off the book value of the machine and to distribute the loss as an expense over all departments.

(1923)

The Bandar Rubber Company manufactured rubber-soled shoes, tires, and tubing. In 1922, sales were approximately

¹Fictitious name used for purposes of disguise.

\$5,000,000. The book value of machinery totaled \$800,000. Previously, the Bandar Rubber Company had depreciated all its machinery at the rate of 5% for each fiscal operating period. The bankers of the company and the income tax auditors claimed, however, that it was necessary for them to know more definitely the exact percentage of yearly depreciation on the machines used throughout the factory. In order to comply with these requests, in 1922, the machinery was grouped into 20 classifications, according to the department in which it was used, the process which it performed, and its estimated life. The estimated life of these machinery groups varied from 12 to 18 years. An annual rate of depreciation for each group then was determined by dividing the estimated years of life of each group into 100%.

In 1923 the company decided to discontinue the use of a rotary grinding machine in the waste department, and instructed the accounting department to decide how the value of the machine should be written off.

In 1919, upon the recommendation of the manager of the waste department, the rotary grinding machine had been purchased at a cost of \$1,000. It was used to grind the waste resultant from the manufacturing processes. This waste consisted almost entirely of pieces and shavings of rubber. After it was ground it was incorporated in a rag compound which was used as a filler between the insole and outsole of rubber-soled shoes. In 1922, however, it was possible to sell this waste, before it was ground, at 5 cents per pound, and to purchase a substitute suitable for immediate use for 1½ cents per pound. Thereafter, the company sold the waste material and purchased the substitute.

The rotary grinding machine then was employed in grinding all kinds of waste materials which accumulated throughout the factory. In the spring of 1923, the machine was broken. The expense of repairing was estimated at \$400. Since "cracker" machines in other departments of the plant could perform these general grinding operations, the production department preferred to scrap the rotary grinder rather than to incur the repair expense. Since 1919, the rotary grinding machine had been depreciated in value to \$775. It had been placed in the "mills and calenders" group, which had been depreciated at the rate of 7.5% annually.

It was possible to continue to carry the machine in the general machinery asset account and decrease the book value yearly at

7.5% of the \$1,000 purchase price. The objection to this method was that since the junk value of the rotary grinder was negligible, the machinery asset account would show an inflated value each year until complete depreciation had been charged. It also was possible to charge the \$775 to the operations of the waste department for the current year. Such a procedure, however, appeared unfair to that department, since the machine had performed services for other departments. As the book value of \$775 represented less than $\frac{1}{10}$ of 1% of the total machinery asset account, the accounting department decided that the loss should be taken immediately and distributed as an expense over all departments. Accordingly, the book value of the "mills and calenders" group account was reduced by \$775 in the 1923 balance-sheet as well as by the annual 7.5% deduction.

32. RITCHEY MACHINE COMPANY¹

PAY-ROLL ANALYSIS. The company had 16 district offices with standardized accounting methods. The disbursement manager requested a monthly analysis of the district office pay-rolls.

CUMULATIVE TOTALS. The company decided to use, for the monthly pay-roll analyses, cumulative totals for 12 months.

CLASSIFICATION OF PAY-ROLL CHANGES. In the pay-roll analyses, the company decided to include columns which would classify the amounts of increase and decrease according to causes. The statistician deemed these data sufficiently significant to justify the resultant complexity of the analyses.

(1923)

The Ritchey Machine Company's manager of disbursements in 1923 requested a monthly statistical analysis of the pay-rolls of its 16 district offices. Standardized accounting methods were used in each district; accounts were divided into selling force, order service, accounting and financial, stenographers and typists, engineering, warehouses, and others. Monthly and cumulative pay-rolls and the number of employees were available.

The classifications of accounts were chosen as the basis for the analysis. Whether to present pay-roll expenses by months or in a cumulative form, was discussed. Use of monthly pay-rolls

¹Fictitious name used for purpose of disguise.

would portray distinctly any exceptional change. In a cumulative series an exceptional figure was not noticeable, because it was affected by the previous months included in the cumulative total. Monthly figures also would permit monthly pay-roll comparisons, which cumulative figures did not. Cumulative pay-rolls would indicate the total amount expended for salaries up to the time that a report was prepared. This total would be significant because the minor fluctuations which affect monthly pay-rolls would be distributed over the number of months cumulated, and because the trend of salaries for the year would be shown.

There was a question of the suitability of the average salary per employee for the study. By dividing the average number of employees into the amount of total salaries paid, the statistician could obtain a figure which indicated whether salaries were increasing or decreasing but did not explain the causes for any changes. In order to secure the average number of employees, he could add the number of employees at the end of each month and divide by the number of months included. An alternative was to include columns which represented the total increase or decrease in salaries, by classification, between the periods compared; another column which indicated the changes caused by salary adjustments; and a third which showed changes caused by an increase or decrease in the number of employees. The sum of the columns "changes caused by salary adjustment" and "changes caused by increase or decrease in number of employees" then would equal the column "total increase or decrease in salaries." It was suggested also that the percentages of fluctuations caused by employee and salary changes be included. Although the inclusion of these additional columns would complicate the report, and require detailed analysis of the causes for the increases or decreases, the opinion prevailed that the detailed explanations of changes were of significance.

The points outlined above were taken into consideration and the figures shown in Table 29 prepared. The accounting classifications and cumulative figures from the beginning of the year, or for 7 months, were used and they were to continue to be accumulated until they were available for 12 months. Columns were included which indicated the changes between periods, and the portion of change attributable to salary adjustments and to increases or decreases in the number of employees. The date

TABLE 29
MONTHLY CUMULATIVE PAY-ROLL ANALYSIS, DISTRICT OFFICE NUMBER 10, RITCHEY MACHINE COMPANY
Comparison of First Seven Months, 1923, with First Seven Months, 1922

Classification	1923		1922		Total Increase in Salaries for 7 Months	Increase 7 Months Due to Rate	Percentage of 1922 Salaries	Increase 7 Months Due to Kind of Employees	Percentage of 1922 Salaries
	Average Number of Employees for 7 Months	Total Salaries for 7 Months	Average Number of Employees for 7 Months	Total Salaries for 7 Months					
Selling Force.....	91	\$161,556	83	\$132,779	\$28,777	\$16,004	12%	\$12,773	10%
Order Service.....	52	40,216	42	31,762	8,454	1,410	4	7,044	22
Accounting and Financial.....	35	27,314	30	21,996	5,318	1,430	7	3,888	18
Stenographers and Typists.....	36	24,455	32	20,076	4,379	1,916	10	2,463	12
Engineering.....	15	19,783	14	17,477	2,306	2,219	13	87	..
Warehouse.....	24	17,230	19	13,133	4,097	858	7	3,239	25
Total.....	253	\$290,554	220	\$237,223	\$53,331	\$23,837	10%	\$29,494	12%
All others.....	20	29,279	18	23,218	6,061	3,806	16	2,255	10
Grand Total.....	273	\$319,833	238	\$260,441	\$59,392	\$27,643	11%	\$31,749	12%

in Table 29 also indicated the percentages which the increases caused by changes in rates of payment or by changes in the number and type of employees bore to the total amounts of salaries paid during the corresponding 7 months of 1922. A similar analysis of each district was made; those of the 16 districts were consolidated into one summary analysis.

33. AMPERTON COIL COMPANY¹

PIECE-WORK—DAY-WORK. On coil-winding operations, the company employed men and boys at the same piece rates. Labor conditions, however, made the men's basic day rates approximately double those of the boys, although the men did not produce twice as much as the boys.

ACCOUNTING FOR DIFFERENTIAL DIRECT-LABOR COSTS. The company decided that the most accurate method of computing labor costs was to charge the piece rates immediately to the cost sheets, but to spread the additional compensation paid to the adult laborers over the entire product as "miscellaneous direct labor."

The employment of men and boys on coil-winding operations in the motor department of the Amperton Coil Company at the same piece rates but with different day rates raised the question of whether to charge the additional compensation of the men as miscellaneous direct labor or as general overhead expense.

The piece rates were set in such a manner that the boys performing the operations earned a little more than their basic or day rates, provided each day's output reached the standard on which the rates were based. Conditions of the labor market and of production, however, made it necessary for the company to employ men for coil-winding at day rates approximately double the day rates for boys. The output of the men, in comparison with that of the boys, however, was appreciably less than twice as much. Since the men's earnings could not be reduced, there was an additional expense for adult labor which could not be charged to the sets of coils that the men wound.

In the motor department, job tickets were used with the individual orders, and the direct labor costs, as entered on these job tickets, were summarized on departmental cost sheets. General overhead charges in the department were entered on the cost

¹Fictitious name used for purpose of disguise.

sheets as percentages of the direct labor costs. The factory, since it billed products to the general office at cost, did not show a profit on any products. Several of the executives declared that to show true costs, the differential expense of adult labor should not appear as direct labor in the cost of the finished product. They also stated that it corresponded to spoilage, to which overhead applied as much as to satisfactory products. Others asserted that it should not be included in general overhead expense because it applied only to the coil-winding department; and because the greater the percentage of total cost which represented direct labor, the more accurate the cost sheets would be.

It was decided to charge the additional compensation paid to men, as miscellaneous direct labor on all coil-winding, rather than as departmental overhead. In this way, the extra labor cost was spread over the output of the department as an average direct labor charge.

34. DUNKER MOTORS COMPANY¹

CURTAILMENT OF PRODUCTION. The company employed 6,500 men in its shops and operated on a basis of two 8-hour shifts a day. In January, 1921, because of an increasing surplus of finished product, the company commenced to curtail its production.

LAY-OFF—PART-TIME OPERATIONS. After it had operated unsuccessfully under several part-time plans, the company decided, in May, 1921, to use one four-day shift with a reduced number of employees.²

(1921)

From 1914 until the fall of 1920, sales of the Dunker Motors Company were well in advance of production, but in September, 1920, they began to fall slightly behind the scheduled output.

In a conference of the company's executives, the sales manager declared that in his estimation it was impossible for the sales department to maintain its previous volume of distribution, and he suggested that the company should decide whether or not to continue to produce automobiles and trucks at the established rate. This required two eight-hour shifts per day; there were 6,500 employees.

¹Fictitious name used for purpose of disguise.

²See also Mandeville Shoe Company, p. 150.

Inasmuch as the production department had on hand extensive inventories of raw materials and semifinished parts, its executives recommended that the company continue to manufacture on existing schedules at least until current inventories of raw materials were reduced substantially.

It was the policy of the company during business depressions to supply work to all its employees as long as possible, and in accordance with that policy the labor manager proposed that production be continued without restriction. By following this policy over a period of time, the company would be able consistently to retain its skilled workmen. The ratio of labor turnover would be held at a minimum, and the morale in the factory improved continually. The employees were not unionized. The company paid wages which were based upon the individual output of each man and which compared favorably with those paid in other plants in the vicinity.

Although business conditions were not propitious for continued production in undiminished volume, the officials agreed that for the reasons outlined by the production and labor managers, the factory should be operated at full capacity until January, 1921.

At that time it was evident that the sales organization was unable to dispose of the stocks of finished cars, and since there were no indications of an early business revival, the company decided that production should be curtailed. It already had adjusted its inventory of raw material and work in process, and had accumulated ample supplies of finished vehicles to provide for prompt delivery of all standard orders which might be received.

During this period it had retained its regular employees without reduction either of wages or hours. The policy of restricting output was made effective gradually. In January, 1921, the production schedule was curtailed by reducing the number of working days to five per week. This plan had the advantage of giving the men one day on which they might secure outside work and thus increase their earnings.

In February the depression was unusually severe, and the sales department was unable to obtain orders for the automobiles which were on hand or in process. During that month, work was put upon a four-day basis, but as the inventory of finished product continued to increase, a further change was made **necessary.**

On the first of March, therefore, it was decided that the night shift should be discontinued. One thousand men were laid off, and the remaining men were divided into two three-day shifts of eight hours each. One shift worked on Monday, Tuesday, and Wednesday, and the other on Thursday, Friday, and Saturday. This change was made although the company realized that it involved extra supervision and increased the proportion of indirect labor costs, because a full quota of shop clerks, time-keepers, inspectors, and tool crib attendants was necessary. The advantage consisted in adhering to its labor policy of supplying work, even though on part time, for a maximum number of its employees.

After operating for two months on this basis, the Dunker Motors Company found that the cost of operation was prohibitive. More supervision and clerical work was necessary than the company had anticipated, and the quality of the product was affected adversely, although the company had expected the men to put forth unusual efforts to assist in reducing the costs of operation. The actual result, however, was that the quality of production and the plant morale suffered during the short-shift plan because the men were worried over their reduced incomes.

In May, therefore, a change in the method of curtailing output was made effective. The company laid off more men and reverted to its former plan of operating with one shift four days per week. In making this decision, the company expected a reduction in indirect labor costs and also an improvement in the quality of work. The company believed that it had adhered to its policy of continuous employment long enough to demonstrate its sincerity toward its employees. Since the winter season had passed, furthermore, the unemployed men were able to obtain work on farms in the surrounding territory and in the building trades, in which summer activity was commencing.

The Dunker Motors Company expected that with the additional day of work the shop morale would be strengthened, and the executives were convinced that it would be possible, as soon as there was a sufficient revival in sales, to secure again the services of the men who had been laid off. This expectation was strengthened by the fact that the company was located in a growing industrial city which was attractive to laborers.

35. MANDEVILLE SHOE COMPANY¹

CURTAILMENT OF PRODUCTION. Because of the business depression which began in 1920, sales decreased to such an extent that production had to be reduced one-half.

LAY-OFF. This production schedule allowed the company to discharge unsatisfactory employees and to obtain the excellent workmanship and prompt deliveries which were essential during a depression, when requests for cancelations were frequent. The company decided to operate six days weekly with a reduced force.

WAGE REDUCTION. The company did not wish to be the first in its locality to reduce wages. It decided, consequently, to refrain from wage reductions until after neighboring plants had taken that action.²

(1920)

The standard production of the Mandeville Shoe Company was 5,000 pairs of shoes per day. The company manufactured on order only; no shoes were manufactured for stock. The orders were taken by salesmen, who exhibited sample shoes. All the company's output was sold by its own representatives directly to shoe retailers. During the business depression which commenced in 1920, the company found it necessary to limit production to one-half normal capacity, and sought to formulate a policy by which the curtailment could be effected.

The production manager received regularly, from the sales manager, lists of the orders to be filled during the following two or three months. These orders were scheduled in accordance with the time and quality requirements of the sales division. The length of the complete shoemaking process had been reduced to 15 full working days.

The manufacture of shoes for summer delivery commenced in January or February and ended in June. Production of winter shoes started in June and July and ended about the first of the year. Samples to be used by the salesmen were produced during the period preceding the beginning of work on the summer or winter schedules.

During September, 1920, there was a marked decrease in the company's orders; this accompanied the depression in the shoe industry which had begun several months previously. In Sep-

¹Fictitious name used for purpose of disguise.

²See also Dunker Motors Company, p. 147.

tember few new orders were received, and there were many cancellations of orders then in process. The cancellations were based upon technicalities, such as late deliveries and failure to equal samples. It was realized, however, that the general depression was the basic reason for the cancellations.

Total new orders which were received daily, less cancellations of previous orders, required only 2,500 pairs of shoes per day, one-half the normal output.

The president, after conferences with the sales manager, instructed the production manager to plan reduction of the output to 2,500 pairs of shoes per day, and assured him that orders for that number would be secured for two months at least, provided that high-quality workmanship could be maintained and prompt deliveries made. It was pointed out that production costs must be kept at the lowest possible figures.

The sales manager of the company outlined the market conditions in the following summary:

Retailers seem to be fairly well stocked with winter shoes and it is nearing the end of the buying season for this class of goods. Many of the retailers have been following a hand-to-mouth policy for the past three months and a large part of the orders received by the company are fill-ins which are needed in a hurry. The retailers are extremely particular that shipments on their orders be prompt and reach them as soon as possible. If orders are not filled promptly, cancelation is almost certain to follow. The salesmen, to get business, have been promising prompt delivery. The retailers are demanding a high standard of quality. A shipment which in normal times a retailer would accept without question now may be rejected because of defective material or poor workmanship in one pair of shoes out of the entire order.

During the period of prosperity that had just ended, the employment department had been compelled to hire workmen who were of lower skill than the company usually required. It had been difficult to secure enough operators to provide the increased production, and as a result the quality of workmanship had suffered. An attitude of carelessness existed among the employees.

Table 30 shows the personnel and payment list of the plant, and the amounts of salaries and wages chargeable to each pair of shoes when the normal rate of output, 30,000 pairs weekly, was maintained.

The production manager considered three methods of curtail-

TABLE 30

AMOUNTS OF SALARIES AND WAGES CHARGEABLE TO EACH PAIR OF SHOES MADE BY MANDEVILLE SHOE COMPANY WHEN NORMAL RATE OF OUTPUT WAS MAINTAINED

Labor Classification	Description	Payment Basis	Amounts per Week	Amounts of Salaries and Wages Chargeable to Each Pair (30,000 pairs per week basis)
Organization	1 Superintendent.....	Weekly Salary		
	10 Foremen (1 each dept.).....	Weekly Salary	\$600	\$0.02
	10 Office clerks.....	Weekly Salary		
	1 Office manager.....	Weekly Salary		
Day-Labor	1 Carpenter.....	Hourly Rate	\$300	\$0.01
	1 Machinist.....	Hourly Rate		
	1 Elevator man.....	Hourly Rate		
	1 Engineer.....	Hourly Rate		
	2 Cobblers (in different depts.).....	Hourly Rate		
	4 Inspectors (each in different dept.).....	Hourly Rate		
Piece-Labor	600 Operators.....	Piece-Work	\$24,000	\$0.80

ing output. These were, first, to operate 3 days per week with entire working force producing 5,000 pairs per day; second, to operate 6 half-days per week with entire working force producing 2,500 pairs per day; and third, to operate 6 days per week with reduced force producing 2,500 pairs per day. Any one of these plans was practicable so far as the nature of the work and the mechanical operation of the plant were concerned.

The plant was operated under an open-shop policy. There were no agreements with any of the unions, although 80% of the employees were union members. Practically the same situation existed in the other factories and mills in the town. Other employers had not suggested reductions in wages. The company did not deem it advisable to reduce costs at that time by lowering the wage scale, as it did not desire to take the lead in such a movement.

The first and second plans retained the working force intact, and thus insured ability to resume immediately the former schedules, if demand again improved. Inferior workmanship, however, was a probable result, because of the interrupted working

hours, the difficulties of enforcing discipline, and the apprehension of the employees concerning their status.

Since high-quality workmanship and prompt deliveries were of especial importance during the period of depression, the production manager urged the adoption of the third plan, which called for the operation of the plant 6 full days per week with a reduced working force capable of turning out 2,500 pairs of shoes per day. An important advantage of this plan was that it provided an opportunity to eliminate the less satisfactory workmen who had been employed during the preceding period of forced production. Difficulty with the unions might arise as a result of such action, but since the men to be retained were those having desirable characteristics, it was probable that they would offset any attempts on the part of the unions to embarrass operations. The unions, furthermore, were not expected to precipitate a strike, because of the apparent imminence of a period of unemployment, and because of the number of union members retained in the factory.

If the men who were laid off claimed that the company was placing the question of expediency before its moral obligation to its workmen, the company might gain an undesirable reputation in the community for favoring some of its employees and discriminating against others. This was probable if other employers in the town followed more lenient policies. Many of the employees would realize, however, that the company was following a policy which indicated sound management.

Disruption of the existing labor force in the plant was inevitable under the third plan. The employment manager stated, on the other hand, that the workmen to be laid off were unlikely to leave the community permanently. It was known that the neighboring mills were unable to offer steady jobs to these men. It therefore seemed probable that they could be reemployed at a later time if conditions should warrant.

The company depended upon the men who were retained to realize the necessity of careful and accurate workmanship. This provided for reductions in unit costs through the elimination of spoiled parts, and more economical use of materials. Indirect labor expenses could not be reduced appreciably, because continued operation required full repair and maintenance crews.

By working six full days per week, the company could assure prompt deliveries; orders would be put into process without the delays which were unavoidable if the plant were operated only three full days per week or six half-days per week.

The plan recommended gave the company an opportunity to build up a dependable nucleus from which to expand subsequently. It also facilitated the maintenance of high-quality workmanship on the samples to be manufactured during October. The quality and appearance of these samples probably would influence the quantity of orders that the company might secure during the first six months of 1921, when unusually severe competition was expected.

The other officials of the company approved the production manager's recommendation. When it was made effective, no serious labor difficulties arose. The employees who remained were aggressive in counteracting attempts to foment a strike. Several months later, other companies in the vicinity reduced wages, and the Mandeville Shoe Company lowered its scale correspondingly.

36. MIXNER BRASS COMPANY¹

DAY RATE AND BONUS PLAN OF WAGE PAYMENT. The company employed from 1,500 to 2,000 men to make brass and metal products. The operatives, who formerly had been paid piece wages, were to be paid according to a combination day rate and bonus plan.

TIME STUDIES. Experienced mechanics were selected to make repeated studies of each operation, under the supervision of a time-study executive.

TIME-STUDY DATA. The company decided that the time-study observers should record on tabulated forms the actual average number of minutes used in the performance of each operation, and also the average number of minutes that, in the observer's opinion, should have been attained.²

(1920)

When the Mixner Brass Company undertook the installation of a combination day rate and graduated bonus plan of paying

¹Fictitious name used for purpose of disguise.

²See also Mentley Automatic Devices Company, p. 159; Hatley Wood-Working Machinery Company, p. 162; Little Piano Company, p. 168; Stanway Manufacturing Company, p. 170.

employees, it had to determine a standard time allowance for each operation. The success of the plan was dependent upon accurate fixation of the time allowances, because bonuses were to be calculated upon the degree to which each man's performance approached the standard.

The company selected a group of skilled mechanics from the production departments, to act as time-study men. They were to record the average periods of time required by competent workmen, under observation, to perform every phase of the operations studied. The company had a choice between two methods of using the averages obtained by the time-study men. It could use those averages without change, other than to add a percentage of time for fatigue and unavoidable delays, or it could require that the observers modify the actual averages in accordance with their opinions as to what time ought to be used.

From 1,500 to 2,000 men were employed in the manufacturing departments. Nearly all products required machine processing, since they consisted of brass valves, pipes, gas tanks, and other metal articles. A straight piece-rate system of payment previously had been used, but the bonus plan was accepted because the company believed that the results would be greater output at lower unit cost and additional earnings for the men.

Under the proposed plan employees in the manufacturing departments were to be paid fixed daily wages according to their work classifications. There were four classifications; as a man was advanced from one classification to another because of increasing ability and length of service, his pay rate was to become correspondingly greater. On the basis of the time-study department's analyses of all manufacturing processes, the standard output attainable for each operation was to be determined. When a man reached 60% of the standard, he would receive as a bonus a percentage of his daily rate. Provision was made for an increase in the bonus percentage with each corresponding advance in classification.

The company realized that in order to accomplish the desired results, the method established for determining a standard performance must be satisfactory to the employees as well as to the company. The men selected for the time-study department had been in the company's employ long enough to be thoroughly

familiar with the important processes. They also were to be given a preliminary training in observation methods. Instructions stated that observers were to exercise extreme care in making the studies. They not only were to be sure that the proper sequence of operations was followed and that unnecessary moves were eliminated, but also that the proper tools and appliances were used. This training, combined with previous experience in the factory, was sufficient to furnish a thorough knowledge of the component parts of the processes and also to develop the ability to estimate accurately the time needed by a competent operator to perform each task.

The company realized, however, that there were disadvantages in requiring the time-study men to use their judgment in setting the standards. Many instances of dissatisfaction among the employees were sure to occur. Since the men who were to make the time studies had been selected from the ranks of the mechanics, however, the company believed it could convince the men of its sincerity.

The actual averages used, alone, would not allow for the many variations which might occur. Connivance on the part of the workmen studied was always possible, if it were known that the observer's opinions were not given weight. Frequently, therefore, standards might be set too low, to the disadvantage of the company; in other instances, standards detrimental to the employees were likely to be fixed. These factors were far less likely to affect the results obtained, if the opinions of the time-study men also were given weight. The company recognized the fact, however, that the utilization of personal judgments in setting the standards made occasional errors inevitable. To permit the correction of these mistakes, an arrangement could be made that any workman who believed a specific standard too high should report the fact to the time-study department. The chief of that department then could have further studies conducted of the processes in question as well as of those for which standards had been set too low. This practice, however, might lead to the reporting of many unfounded complaints.

The officials decided, nevertheless, that the time-study men should determine the standard times on the basis of their own estimates as well as of the actual averages. All standards were

to be approved by the chief of the time-study department, or revised at his direction. Time-study sheets, as shown in Form 17, were prepared.

The sheets permitted listing each suboperation of a task. Opposite each suboperation were blank columns for the length and depth of the cuts in inches, the feed in thousandths of inches per revolution, the speed of the machine, and the actual observations. There were spaces for three series of observations on each suboperation and for an arithmetical average. When making time studies of a man performing a job, the observers were allowed to have any of the operations repeated until, in their opinion, the man had performed the work to the best of his ability. In order to provide a gage by which to judge the soundness of the arithmetical average for the suboperations, the chief of the time-study department required the observers also to show the time taken by the workmen to perform three complete cycles of the job, including all suboperations. These cycles were independent of those during which the detailed suboperations were studied.

After the arithmetical averages had been determined, the three remaining columns were to be filled in by the observer on the basis of his individual judgment and the instructions pertaining to the type of job studied. These columns were under the general heading, "Should Take." One was for handling time, another for machine time, and the last for a total of the first two. The observer was to decide whether or not the arithmetical average of the times taken by the men was too long or too short. In other words, if the time appeared long, the observer was responsible for indicating in the "Should Take" columns the time which he believed ought to be sufficient for a skilled man working at normal speed. After the standard time had been determined and recorded in the "Should Take" column by a combination of the corrected handling and machine times, an allowance of from 20% to 40% was added for fatigue and other factors which the operator could not control, such as accidents to tools and machinery, or insufficient supply of materials.

On the basis of the accumulated data, it might be possible subsequently to make scientific studies of the wastes caused by inadequate supplies or unsatisfactory routing of supplies.

37. MENTLEY AUTOMATIC DEVICES COMPANY.¹

PIECE RATES. The company set its piece rates at levels intended to yield fair earnings.

METHOD OF DETERMINING TIME ELEMENT IN PIECE RATES. The time element in the piece rate for each operation was the average time used by one of a selected group of time-study operatives in the actual performance of the operation. A suggested alternative was that time-study men be employed to determine standard times by analysis of the motions of competent factory workmen. Because the employees had confidence in the method previously used, the company decided against the change.²

(1923)

The Mentley Automatic Devices Company manufactured electric generators and starting devices for automobiles and stationary motors. Since 75% of the men were machine operators paid by piece rates, and since the company from time to time designed new products and new models of old products, a permanent method of setting piece rates was essential.

The intention was to have each rate set at a point that encouraged maximum production and permitted those men capable of no more than average production to earn a fair wage in accordance with the standards of the community. In the spring of 1923, the company took under advisement a change in its method of determining piece rates.

Until that time, the rate-setting procedure had been as follows: In the development of new models and the introduction of improvements on existing products, the chief engineer received the first suggestion or drawing. He analyzed the proposal and made a preliminary sketch of those parts or machines with which he desired to experiment further. His rough sketch was converted into finished form by the designing department, from which it was sent to a draftsman. The latter supplied all details required for manufacturing purposes and assembled these data on a preliminary ticket. This ticket, which corresponded to a factory order, was submitted to the experimental department, which made a working model of the new machine. If the model proved satisfactory to the chief engineer, the preliminary ticket

¹Fictitious name used for purpose of disguise.

²See also Mixner Brass Company, p. 154; Hatley Wood-Working Machinery Company, p. 162; Little Piano Company, p. 168; Stanway Manufacturing Company, p. 170.

was sent to the planning department, where a complete layout was prepared of all operations and tools necessary for the manufacturing processes. Special tools were made as required and placed in the departments in which they were to be used; skilled operators were selected to test these tools under working conditions.

After the new tools had been proved satisfactory, it was necessary to determine the time required under average circumstances for a man familiar with machine work to perform each operation on standard quantities of each new part.

The rate department, under the supervision of the labor manager, maintained complete data on the various classifications of work performed in the factory. These classifications were determined after analysis of the difficulty and the degree of unpleasantness involved in each operation. The rate department also was supplied with data on the wages paid currently by other factories in the city. When a new rate was established, the classification of the work, the current wages, and also an allowance for fatigue were taken into consideration. The rate department was responsible for determining the basic value of each operation, and in its determination, accurate estimates of the length of time required to perform the operation were essential.

To secure these estimates, the company had selected a group of highly skilled workmen to perform the actual operations and record the time taken. This group comprised the time-study division of the rate department, and whenever a new operation was to be analyzed, one of the men went into the factory and there actually performed the work. He then recorded the average time consumed. For this purpose, a number of parts equal to the average factory order were processed.

This plan had several advantages. In the first place, by selecting such men and giving them higher wages for the added responsibility, the management gave the other workmen an incentive to improve their workmanship in order to qualify for similar promotion.

As a result, the men increased production and made fewer waste motions. The operatives, furthermore, had confidence in the fairness of piece rates based on the performance of men selected from the ranks of employees. Both the company and

the men knew that the task could be done in the time set. For example, if on a new lathe operation, a man skilled in lathe work was assigned to machine a standard order of several hundred parts, the practicability of doing the work in the time that he used could not be questioned. The chief engineer instructed the men in the time-study group, so that each could be familiar with the approved methods for each type of operation.

The company checked the work of the time-study men by recording the earnings of the operators on each task after the time had been set. If the average earnings on a task became unusually high, a new study was made to test the correctness of the time first set. If an individual's earnings, however, were high while the average remained practically constant, no test was necessary, because it was assumed that the individual workman was becoming more proficient. One of the time-study men served as a demonstrator and gave personal instructions to all workmen who were unable to attain a volume of output sufficient to yield fair earnings.

Several executives, who challenged this method because over-all time studies rather than analyses of elemental motions were made, advocated employment of men trained in analysis of operations. In many factories, such men were retained to study in detail the motions of one or more workmen processing the parts. While analyzing the operations, these men recorded the time taken to perform each motion, and taught the workmen to make effective, direct, and non-fatiguing movements. The resulting data, and frequently the opinions of the time-study men, were available for use in the setting of piece rates.

In favor of the change, it was stated that detailed motion studies would permit correction of false, slow, and useless moves, whereas under the existing method, the men in the time-study group could not be conversant always with the best methods, nor able to teach the workmen effectively. The motion studies, furthermore, were not dependent on the habits of the operatives, of whom even the most highly skilled probably wasted some effort. The elemental studies would be valuable in checking and formulating new rates and as records in case of disputes.

On the other hand, the employees might object to working under observation. If they became nervous and self-conscious,

the results of the time studies were certain to be affected adversely. Resentment against the presence of men who did not perform the actual operations and yet were instrumental in setting the rates was probable.

The company decided, therefore, not to change its procedure.

38. HATELY WOOD-WORKING MACHINERY COMPANY.¹

HOURLY WAGE RATES. This manufacturer of wood-working machines employed 475 skilled machinists paid according to hourly rates.

ESTABLISHMENT OF PRODUCTION STANDARDS. In order to judge the relative performances of the men, the executives wished to establish time standards for the various operations.

PRODUCTION STANDARDS BASED ON COST RECORDS. The company decided to obtain the standards from the cost records which already were available, rather than from time studies, since the latter entailed greater expense and risks of affecting the workers' morale adversely.²

(1922)

The Hately Wood-Working Machinery Company employed about 475 skilled machinists in the 20 manufacturing departments of its factory, where it produced a variety of wood-working machines ranging in sales price from \$25 to \$7,500. Workmen were paid according to hourly rates; no steps ever had been taken to introduce piece rates. Prior to 1922, records had not been compiled to indicate the relative capabilities and performances of the employees. Since wages were calculated on a time basis, the executives of the company suggested that indexes should be established by which to determine the standard lengths of time in which operations should be performed.

The company compared two methods which could be used in determining the desired standards. One was to have experienced men make time studies of all operations performed in the factory and to determine from these studies the correct time which should be used for a specific job. The other method was to examine the cost records and from them to take, as standards, averages of the times used by different workmen in performing each task.

¹Fictitious name used for purpose of disguise.

²See also Mixner Brass Company, p. 154; Little Piano Company, p. 168; Stanway Manufacturing Company, p. 170.

The cost records were based upon operation time cards of the type shown in Form 18.

Pads of the operation time cards were furnished to each man. When an employee commenced work on a job, he entered on the card the required data, including the operation number. When he finished the job, he entered the time at which he stopped. At the end of the day all operation time cards were approved by the departmental foremen and delivered to cost department clerks, who entered on master cost sheets the information necessary for compiling job costs.

The company manufactured about 75% of the parts required for its machines. These parts were machined in the lathing, stamping, grinding, and boring departments and were placed in a central finished-stock storeroom, where were kept also the finished parts, such as bolts, knives, and electrical apparatus purchased from other manufacturers. From the storeroom, parts were withdrawn for assembly.

Each of the several thousand operations of manufacturing and assembly was designated by an operation number. The opera-

OPERATION TIME CARD									
Pattern or Part Number _____				Operation Number _____			Man's Number _____		
For Machine _____							Job Number _____		
Man's Name _____							Equipment Number _____		
Date	Number Good	Number Spoiled	Number Defective	Time—Bad*		Total Time			
				Hours	Minutes		Hour	Min.	
						Finish			
						Start			
						Finish			
						Start			
						Finish			
						Start			
						Finish			
						Start			
						Finish			
						Start			
Check here when job is finished _____						O.K. _____		Foreman _____	

Form 18: Individual operation time card

*In this column the man recorded the time spent on parts which he spoiled and which were useless, and the time spent on processing parts which were defective. Each man corrected his own defective work. The time recorded as bad served as the basis for factory cost accounting entries, but since it was included in total time, the latter indicated the net ability of the man to perform the entire job.

tion time cards were filed in the cost department according to these numbers. Since these files had been maintained for many years, complete records of the lengths of time consumed in all the performances of each operation were available.

It was recommended that the cost department be authorized to prepare a list of all the lengths of time in which each operation had been performed during the previous five years and that these times be averaged to establish a standard for each operation. It was recognized that a standard established in this manner would indicate only the average time actually taken by workmen and not the minimum time of performance. To determine the lowest time limit in which each operation could be performed, it was possible to have studies made of the most highly skilled workmen in the plant; if actual studies were made, however, the workmen might believe that the company was contemplating the installation of piece rates. Inasmuch as the officials had not planned such a step, they did not wish to disturb the satisfactory morale in the plant.

The foremen in the manufacturing departments, furthermore, had been in the company's employ for long periods, and had become vital factors in maintaining the high quality of all the company's products. The foremen might object to having time studies made of the men under their supervision, because the men were likely to think that the company did not have entire confidence in the ability of the foremen to obtain the desired results.

To make detailed studies of each operation, moreover, involved more time and expense than to summarize the cost records. For these reasons the company decided to use only the information already available in the cost files. In nearly all cases, the men who had performed the operations had been employed continuously, and had been instructed by the foremen in the methods of securing maximum production without sacrificing quality. The company was confident, therefore, that the cost records would yield reliable averages by which to gage future production, and would furnish the foremen with accurate information regarding the men who should be given further specific instructions.

A clerk was assigned to the cost department for the purpose of preparing the standards and summarizing the results. Every

operation performed on every part and on every assembly job was listed on a separate card. The time cards collected during the previous five years on each operation were assembled chronologically, and on the new cards were entered, according to dates, the names of all men who had performed the operation and the length of time which each had consumed. When these entries had been made, an average was taken which became the standard time for the operation. In arriving at the average, the clerk dis-

Operation Number <u>37-X-275</u>							
Date	Man's Name	Time Used		Date	Man's Name	Time Used	
		Hours	Minutes			Hours	Minutes
6/18/18	J. Smith	1	30	1/4/23	A. Vincent	1	13
8/20/18	J. Smith	1	38	5/11/23	A. Vincent	1	05
12/2/18	W. Brown	1	15				
3/5/19	H. Jacobs	1	52				
2/19/20	H. Jacobs	1	28				
7/8/21	H. Jacobs	3	10				
4/22/22	H. Jacobs	1	16				
Average		1	30				

Form 19: Computation of a standard time for performance of an operation

carded extreme variations. In the computation shown in Form 19, for instance, when the average for an operation proved to be about one hour and an individual job showed that three or four hours had been used, the latter time was disregarded on the assumption that such instances had been caused by unusual circumstances.

After the standards had been established in this way for all operations, the time cards received each day were posted to the cards showing the standards. From this record it appeared that operation number 37-X-275 had required an average time of 1 hour and 30 minutes. In determining the average, the clerk disregarded the time consumed on July 8, 1921, because of excessive variation on that date. The cost department was instructed to establish a new average twice yearly by including in the average the times used in subsequent performances of the operations.

The clerk in the cost department was provided with a book in which a separate page was used to record the performances of each workman in the factory. On these pages an entry was

made daily for each workman, showing his actual time as compared with the standard time for the operations on which he worked. Before posting under a man's name unusual excesses of time, the clerk interviewed the man's foreman. If there had been extenuating circumstances such as a machine or tool breakdown, or lack of materials, the posting was omitted from the man's record, though retained on the operation card. This provision eliminated the possibility that the foreman might think the men were being judged unfairly. The entries were made on a page similar to Form 20.

At the end of the month the entries in this book were summarized by departments, so that the total excess time used by

Man's Name <u>L. A. Stone</u>				Department <u>19</u>			
Date	Operation No.	Standard		Actual		Excess	
		Hours	Min.	Hours	Min.	Hours	Min.
7/2/23	402-T-27	1	45	1	50	0	5
7/2/23	72-S-203	2	0	2	32	0	32
7/2/23	870-R-18	4	30	4	00		
7/3/23	870-R-18	4	30	4	18		
7/3/23	79-B-81	2	0	2	45		45
Total						14	32

Form 20: Page in employees' record book

all workmen in each department was made available for the guidance of the foremen and factory superintendent. Monthly reports, such as that presented in Form 21, were made out in triplicate, and contained by departments the names of all men who had used more than the standard time to perform their work.

Each foreman received a copy of the report pertaining to his department; from it he was able to determine which men in his department were using more time than the standard. When provided with similar copies, the factory superintendent was enabled to check the relative performances of the departments. On the basis of this information, conferences were arranged with the foremen when it appeared advisable to discuss the reasons for excess times reported.

Monthly Excess Time Report		
Department <u>19</u>	Date <u>July 2, 1923</u>	
Names	Excess Time	
	Hours	Minutes
<u>R. Jones</u>	<u>18</u>	<u>45</u>
<u>J. Petersen</u>	<u>10</u>	<u>30</u>
<u>A. Birdwell</u>	<u>8</u>	<u>20</u>
<u>S. Egan</u>	<u>8</u>	<u>15</u>
Total for Department. <u>July</u>	<u>192</u>	<u>15</u>
<u>January</u>	<u>324</u>	<u>30</u>
<u>February</u>	<u>360</u>	<u>15</u>
<u>March</u>	<u>298</u>	<u>18</u>
<u>April</u>	<u>276</u>	<u>48</u>
<u>May</u>	<u>263</u>	<u>19</u>
<u>June</u>	<u>225</u>	<u>10</u>

Form 21: Monthly excess time report

It was planned that, in addition to the excess hours used in each department for the month, these reports should show the excess hours consumed in previous months beginning at the first of the year. Thus a comparison could be made with previous records to indicate the progress made in the departments.

In several departments the total excess time was reduced by one-half to three-quarters of the previous totals. When the decision to adopt this method of determining labor standards was made, the officials of the company expected that difficulty might develop in inducing the foremen to use the information without antagonizing the men whose performances appeared unsatisfactory. The plan was explained to the foremen individually; it was pointed out to them that the records of their departments were to be taken into consideration in rating them for

advancement. The results, however, were satisfactory to the company because the foremen gave more time than previously to those men who required instruction. Since the monthly reports were distributed confidentially to the foremen and factory superintendent, the danger of creating ill will among the workmen was reduced to a minimum.

39. LITTLE PIANO COMPANY¹

DETERMINATION OF PIECE RATES. The piece rates used in the company's piano factory were determined by the superintendent on the basis of his experience. Of the 75 employees, 60 received piece wages.

TIME STUDIES. Accurate time studies might have made increased production and wages possible, and thus have attracted younger employees. The company decided, however, that the costs were excessive and that whereas its existing method of rate-setting was satisfactory to the employees, time studies might cause resentment.²

(1923)

The Little Piano Company manufactured pianos of medium quality. It employed approximately 75 workmen in the plant, the annual output of which ranged from 1,000 to 1,200 pianos during the 10 years prior to 1923. The factory superintendent set the piece rates, which were the basis of wage payments for 80% of the operations. The executives of the company thought, however, that the use of time studies for the determination of the piece rates might be advisable.

The time required for different operations varied from a fraction of an hour to three days. The superintendent fixed the rates so that compensation equaled that paid by other piano companies in the same vicinity. Sometimes the rates were established incorrectly, but in such instances they were increased or decreased to conform to the average payment made for the operation. By this method the superintendent believed that he could determine piece rates accurately. This system, furthermore, was simple, inexpensive, and easily applied.

¹Fictitious name used for purpose of disguise.

²See also Mixner Brass Company, p. 154; Mentley Automatic Devices Company, p. 159; Hatley Wood-Working Machinery Company; p. 162; Stanway Manufacturing Company, p. 170.

Young men did not enter the piano industry, however, because it demanded painstaking effort and other occupations offered higher compensation. A shortage of labor, therefore, existed. If the rate of output per employee could be increased, fewer men would be needed and each would secure higher earnings. The employees were middle aged; many of them had been with the company for 25 years, and were satisfied with the management, but they did not show an exceptional degree of cooperation. The superintendent might have obviated this difficulty, perhaps, through a special effort to manifest a personal interest in the men.

Several officers of the company believed, nevertheless, that time studies were necessary, because through their use, the company could establish more accurate piece rates and diminish the occasions for changes. In several operations the employees frequently encountered difficulties which could not be anticipated, and consequently the time required for the same task varied. Through time studies, methods for revealing and eliminating delays might be devised.

An extended period would be needed to make comprehensive time studies, since a few operations consumed many hours and had to be timed repeatedly. The maximum cost of making time studies for all operations in the factory was estimated at \$7,500, and the time required at 1½ years. Three men were needed for an initial period of six months. One would receive about \$20 a week, another \$50, and the last, on part time, \$70 per week. During the remainder of the studies only the second man would be required.

The factory superintendent did not believe that the changing of incorrect piece rates set by himself antagonized the employees. Because the plant was small, he had been able satisfactorily to explain to the workmen that the company could not afford to continue to use incorrect rates. The company realized that the men were accustomed to their own methods and might dislike a plan which required that they be studied with a stop-watch. Since the employees appeared content and labor was difficult to secure, the executives feared that the adoption of time studies might create discontent, without attracting younger men to the plant. The Little Piano Company, therefore, decided not to employ time studies.

40. STANWAY MANUFACTURING COMPANY.¹

PIECE WAGES—RATE GUARANTY. The company guaranteed piece wages against reduction except in case of general wage revisions throughout the plant.

PIECE-RATE SETTING—DECEPTION OF TIME-STUDY MAN BY EMPLOYEES. In April, 1920, five operatives performing similar work were changed from hourly to piece wages. Their earnings then were inadequate, and consequently their piece rates were increased. Unusually high earnings resulted, and it was evident that the employees had agreed to deceive the rate-setters to obtain for themselves an unfair rate.

PIECE RATES MAINTAINED. The company decided, because of its guaranty, not to lower these rates.²

The Stanway Manufacturing Company produced cardboard boxes and containers. About 1,250 of the 1,700 employees were paid by piece rates. The company guaranteed to its employees that piece rates would not be reduced after their fixation, unless reductions in the general wage level should become necessary. This guaranty was intended to encourage maximum production by the removal of all apprehension that individual piece rates might be reduced if earnings appeared higher than had been customary before the rates were determined. In April, 1920, a situation developed in one department which made it necessary for the management to decide whether or not absolute adherence to the piece-rate guaranty should be observed.

The stamping department contained machines of two classifications: those driven by hand, and those run by power. Each type had its own operators, who were never shifted from one class of machine to the other. The same ability was needed to operate each type of machines; the power machines required more mechanical skill, and the hand machines more dexterity. All operators in this department had worked previously on an hourly wage basis, for approximately the same compensation. In March, 1920, their average earnings were \$35 per week.

The foreman, however, found that there was a marked decrease in the output from the hand machines. Investigation showed

¹Fictitious name used for purpose of disguise.

²See also Mixner Brass Company, p. 154; Mentley Automatic Devices Company, p. 159; Hatley Wood-Working Machinery Company, p. 162; Little Piano Company, p. 168.

that this condition was caused deliberately by the hand-machine operators. In order to reduce the high labor cost which resulted, the manager of the plant decided to put the hand-machine workers on a piece-rate basis. There were only five of these operators, and their output was small in proportion to that of the whole department. The stamping for large orders was done on the power machines. The hand machines were needed only for small orders, the size of which did not warrant the setting up of the power machines.

After the usual time studies of the hand-machine operations had been made, a piece rate was put into effect for the five operators. Wages of the power-machine operators remained as formerly on an hourly basis. The piece-rate earnings for the five employees averaged 59 cents per hour, which resulted in a decrease of about \$6 per week from their previous earnings. The new rates continued in effect throughout the month of April. At the end of that time, the superintendent reported that the five employees were unable to earn as much as they had received formerly on an hourly basis, and that they were requesting an increase in the piece rate to offset the increasing cost of living.

All piece rates used by the Stanway Manufacturing Company combined two distinct elements. The first was an hourly rate and was a reward for intangible personal qualities such as initiative, perseverance, and adaptability, for which workmen could not be compensated on a simple production basis. The other element was based upon the time and skill which the time studies showed necessary to the effective performance of an operation. This element was a true piece rate, and, unlike the first element, was determined solely by the expected output of the worker. The hourly wage was known as the base rate and represented about 66% of the total wage for operators of minimum skill. For highly skilled operators capable of large production, it was of less importance than the second element, and represented as little as 45% of the total wage.

At the end of April, 1920, because of the request for reconsideration of the hand-machine piece rate, further time studies were made and an advance of the rate resulted. It was thought that under this arrangement the employees could increase their earnings until they equaled those received on the hourly basis.

As soon as the new rate was made effective, the earnings of the five employees increased from 59 cents an hour to 75 cents, and thereafter the earnings per hour advanced, until at the end of November, 1920, each of these five employees was receiving between \$50 and \$60 per week. Conceivably, their earnings might reach \$100 per week. The five employees apparently were increasing their earnings each week to find out how far the management would allow this process to be carried.

Since the employees receiving the new rates already had acquired a maximum of skill, it was clear that their new earnings were not the result of added ability or greater experience. The amount, therefore, by which the wages of the hand operators exceeded the normal wages used in cost calculations was a direct loss to the company, because it was inadvisable to increase correspondingly the selling prices.

The operators of the other machines in this department continued to be paid on an hourly basis and still were receiving an average of \$35 per week. The increased earnings of the hand-machine operators were making their fellow employees dissatisfied. All employees working on piece rates became interested in the attitude which the company might take toward the rate on the five hand-operated machines.

The management was convinced that there had been an agreement between these five employees to deceive the men who had made the time studies. The general discussions of the situation which were taking place throughout the plant resulted in a feeling of tension and resentment, which the company desired to eliminate if a suitable method of meeting the difficulty could be found.

The management decided that it was not wise to initiate any direct action by which to reduce this piece rate. Because of the published guaranty that individual piece rates never were to be reduced, the officers believed that they could maintain a more satisfactory relationship with the employees if the five workers were allowed to continue on the same basis. By a reduction in that rate, the employees would be led to think that other reductions were likely. As the case stood, their resentment could be directed toward a few workers only.

In July, 1921, a general downward revision in wages was made. The company explained to piece-rate workers that a general re-

duction was to be made in that element of the rate which was based on personal qualifications. The management pointed out to the employees that, because of decreased living costs, the hourly service of each worker, as distinct from output, was actually worth less than before. That part of the rate which was based on the skill and time required to perform a specific operation was left unchanged. The earnings of the five hand-machine operators in the stamping department were reduced \$5 per week, but total earnings continued to be as far out of line as formerly.

In the Stanway Manufacturing Company, all general questions arising from the relationship of the company to its employees were discussed fully, and satisfactory settlements were made possible, through committees on which there was an equal number of employees and officials. The employee representatives were elected by their fellow workers.

After the wage readjustment of July, 1921, the company brought to this joint committee the question of correcting minor discrepancies in piece rates. The suggestion was that the employees call to the attention of the management all cases in which piece rates appeared too low, and that the management bring before the committee those in which the rates were too high. A few minor instances were presented by each group, and adjustments were made which met with complete approval. The officials were careful not to suggest that they were changing, in any way, their policy toward the reduction of piece rates. They made it clear that the rates were altered only with the full consent and cooperation of the employees concerned and that the action taken was for the ultimate benefit of the workers as well as of the company.

Although a few minor corrections were made in this way during the period from July, 1921, to March, 1923, the officials did not mention the reduction of the five hand-machine operators' piece rates. The production manager hoped to find a radically different method to substitute for the use of the hand-operated machines so that the entire piece rate could be abolished. As long as the same operation was in effect, however, the officials of the company continued to believe that it was advantageous to maintain this piece rate even at a financial loss and at the risk

of ill feeling rather than to disturb the conviction held by all the employees that specific piece rates would not be reduced without the full consent of those affected.

41. HARNETT GENERATOR COMPANY.¹

DAY WAGES PAID IN ONE DEPARTMENT. The company made small motors and generators. Seventy per cent of the employees were paid piece wages. Most of the other employees were in one department where tools were constructed and repaired. These workers received day wages.

BONUS SYSTEM INSTALLED DURING BUSINESS PROSPERITY. Since delayed deliveries of tools caused complaints, the company decided to introduce, during a period of full employment, a bonus plan to stimulate more rapid work on tools.

(1923)

In the Harnett Generator Company, which was engaged in the production and assembly of small motors and generators, 70% of the employees were paid on a piece-work basis. Of the 30% on a day-work basis, a majority were in the tool department, where tools were constructed and repaired. There had been complaint that slow production in the tool department was interfering with operations in the other departments. Consequently, the management considered the advisability of installing a bonus system of payment in that department with a view to increasing the productivity of the workmen.

Tools seldom were reproduced. Since operations on similar work in the tool department varied, piece rates there were impractical. Each job was analyzed from the blue-prints into separate operations, which were recorded and scheduled on the production sheets. Each employee specialized on one type of operation; all lathe work was assigned to lathe operators, and the same method was applied to milling, bench, backing-off, boring, grinding, and sharpening work. The employees, who were experienced toolmakers, followed the instructions on the production sheets; otherwise they were under no restrictions and performed their tasks in whatever manner seemed best to them. The management was convinced that if the men were given an incentive in the form of a bonus, it would be possible

¹Fictitious name used for purpose of disguise.

to obtain increased production, lower unit costs, and better coordination with the other departments. Satisfactory relations existed between the employees and the company. It was suggested, however, that the installation of the bonus plan should take place at a time when there was sufficient work to keep all men occupied. Otherwise, increased production by some workmen might mean loss of jobs by others, and under those circumstances the failure of the plan was certain. Once the plan had been in successful operation a sufficient length of time to gain the confidence of the employees, however, there was less danger that the cause of necessary lay-offs, in case of business depression, would be misunderstood.

In January, 1923, orders for the company's products were increasing and the officers then authorized installation of a bonus system in the tool department. This system in brief was as follows: Standard times were set for each operation on a job, and in addition to the day rate a bonus was paid which was based on one-half the time saved; the saving represented by the other half was retained by the company. The day rate remained the same as previously.

The man who analyzed the jobs from the blue-prints was a graduate of an engineering school and had been employed for several years in drafting and in toolmaking. Upon him was placed the responsibility of setting the standard time for the completion of each task. Except in rare cases, no two tools were alike. Since the time required by different men on similar tasks varied, the tasksetter, although he kept records of the time consumed on various operations, was forced in the main to rely on his own judgment in determining standard times. To his estimate was added 25% as an allowance for possible delays; the sum of the two was the total time to be entered against the operation on the production sheet.

The production sheets were kept by the foreman, who allotted the work as appeared advisable. When assigned to a task, a workman had the privilege of determining from the production sheet the time allowed him. In only three situations could the standard time for a task be changed. First, if there had been an obvious error in the time set, a correction was made. Second, if the stock-room clerk was unable to furnish the material speci-

fied in the blue-print, that fact was reported to the tasksetter, who then estimated the time on the basis of the stock available. To reduce to a minimum the possibility of delay from this cause, the drafting department kept in close touch with the stock-room and assured itself that the proper materials were on hand. Third, if a workman was convinced that the procedure specified by the tasksetter was not the best and could convince him of that fact, a new time was determined, based on the revised method of operation.

When a man completed a task, the elapsed time, as shown by his time card, was entered against the operation on the back of the production sheet. When all work on the tool was completed, this sheet was turned over to the timekeeper, who checked elapsed time against allowed time and entered the balance, if any, on each man's weekly record. It was thought best to credit each workman with his bonus time after all subsequent operations on the tool had been finished rather than immediately after the completion of his task, for the following reasons: First, the practice of the company was to inspect only completed tools. It was assumed that if one man performed his work poorly and did not report the fact, the man on the next operation would do so, in order not to be blamed for the imperfection. So few spoiled pieces had further operations performed upon them that the management was convinced that more frequent inspection would not be worth while. It equally was convinced that bonus time should not be reckoned before the workmanship had been inspected, lest the stimulus for quality production be reduced. Second, the production sheet on which were recorded the allowed and the elapsed time remained with the tool, and was not given to the timekeeper until all operations had been completed. More frequent reckoning of bonuses would have necessitated extra clerical work which the company decided was not justifiable.

Bonuses were not paid on individual operations. All tasks on tools completed during the week were figured collectively for each man, his minutes gained weighed against his minutes lost, and the balance used to compute his bonus. In arriving at the balance, the timekeeper added together all the minutes credited to the man during the week and divided this sum by two; from this he subtracted all minutes lost charged against the man dur-

ing the same week. The credits were divided in half because the agreement of the company was to pay a bonus for one-half the time saved. The excess time, however, was subtracted in full, because, from the view-point of the management, the man had consumed not only estimated time plus the 25% allowance, but also additional time. Inasmuch as every precaution was taken to insure reasonable continuity of production, and since the 25% allowance had been granted to cover possible delays, the management reasonably could assume that the extra time consumed was the man's own fault, and should be charged against him in its entirety. Thus, if a man worked 48 hours in a week and for the jobs completed during that week had been credited on the timekeeper's record with 15 hours saved and charged with $3\frac{1}{2}$ hours lost, his total time was 52 hours ($48 + [15 \div 2] - 3.5$). This figure was used by the pay-roll department in determining his week's wage. If an employee's bonus time showed a minus balance, he was paid for the actual time he had worked, since he was guaranteed his full day rate. Each week's bonus record, moreover, was complete in itself; a minus or plus balance for one week had no effect on subsequent earnings.

Although a man knew what bonus he had earned or lost on each task, he never knew in advance what his weekly balance would be, because the tools on which he had worked sometimes were not completed until from four to six weeks later. To give him this information and thus guard against possible indifference, an efficiency list showing the plus balance credited to each man for the jobs completed during the previous week was posted one day before pay day. This list stimulated the interest of the men and aroused a spirit of competition among them. Furthermore, a permanent record was kept of the weekly efficiency of each man as shown by these lists, and this record was consulted when questions of promotion or lay-off arose.

Wages and bonuses were paid in one lump sum. It was thought unnecessary to have any mark of distinction between the two amounts, inasmuch as each man knew his day rate and was able to estimate his bonus from the efficiency list.

In case of spoiled work, men who had completed their tasks satisfactorily on that tool before the damage was detected were credited or charged with their minutes gained or lost. The man

who had performed his task imperfectly, however, was required to do the operation over again. He received his day rate, which was guaranteed, but all time spent on the second task was added to the time consumed on the spoiled one and figured on the bonus record as if he had spent the combined time on the one operation.

42. DEERFOOT RUBBER COMPANY¹

OVERTIME WORK. The rubber used in the company's products was mixed according to formula in the factory drug department, the output of which averaged 500 batches each 8-hour day. Since the factory required 600 batches per day, overtime work was necessary in the drug department.

DEPARTMENTAL BONUS. The company decided, therefore, to pay a departmental bonus of 5 cents for each batch of material in excess of 500 produced by the department in an 8-hour day.²

The Deerfoot Rubber Company manufactured a variety of products, including rubber hose of all kinds, rubber soles and heels for footwear, and rubber flooring.

A distinct formula controlled the manufacture of the rubber entering into each product. The rubber was prepared in the drug department in batches, according to formula. A batch contained the quantity of material that could be mixed by one of the machines in the mixing department.

The drug department employed 15 men, nearly all of foreign birth, who were paid average wages of 50 cents per hour. Ordinarily it made 500 batches in an eight-hour day, but the factory required 600 batches, and the department worked overtime to produce this quantity.

Inasmuch as the rest of the plant was operated on an eight-hour basis, the superintendent preferred to have the drug department also operating eight hours per day, for it was his opinion that a man could not work efficiently for a longer period. In order to abolish overtime operation and at the same time to secure the required number of batches per day, therefore, it was necessary to devise a method of securing increased production.

¹Fictitious name used for purpose of disguise.

²See also MacBride Electric Company, p. 181.

In July, 1923, it was suggested that a bonus plan of payment be adopted.

The men worked in groups of from two to eight persons and each group concentrated on a single order of material. The groups were not permanent but changed with each order; individual men were assigned to the group according to the requirements of the production schedule. The size and type of each order determined the number of persons in the group. The men weighed the ingredients for each batch, cut the rubber, and delivered the batches of material to the mixing department. These operations were done by hand.

The foreman of the drug department was convinced that the men were wasting time and that a larger output was possible if they could be persuaded to cooperate. The current rate of output had been established several years previously, and the men were accustomed to it. Although the foreman told the men in July, 1923, that the department must speed up its rate of production, no increase resulted. The factory superintendent was consulted, and he agreed with the foreman that the men could work at a faster rate. He was certain that 600 batches could be made in eight hours without injurious effort on the part of the men.

The plant superintendent was convinced that a higher rate of output could not be secured by exhorting the men. Since the company had appeared satisfied with the current rate, the men were likely to consider further demands unreasonable. Besides this, they were glad to receive time-and-a-half wages for overtime work. An eight-hour day did not seem to furnish a sufficient incentive to them to increase their speed if the day wage remained the same.

Inasmuch as the compounds varied in the time required to make them according to the number and type of the ingredients, it appeared impracticable to apply piece rates to the work in this department. Since the identity of the various groups changed constantly, to keep a record of the operations of the different men would require excessive clerical tabulations.

The proposed plan provided for the payment of a group bonus of 5 cents to be divided equally among the men for each batch of material in excess of 500 that the entire department produced

in an eight-hour day. The workers were told that 600 batches were desired. The day wage remained the same. The average labor cost of a batch of material to the company had been $9\frac{1}{2}$ cents. The company estimated that this plan gave approximately one-third of the saving of the increased output to the workers.

If the men produced only 500 batches in 8 hours and left the remaining 100 batches to be completed during overtime, they were to be paid time and a half for overtime as before. Under these conditions their compensation for the entire day's work would be greater than if the bonus were earned. If the men produced 600 batches in 8 hours, each man would receive a bonus of about 33 cents. If they produced steadily at the rate of 500 batches in 8 hours and put up 600 batches, the overtime was 1.6 hours, for which each man received approximately \$1.20 overtime pay. The difference between the two amounts was 87 cents, which was the actual additional money that could be earned by operating on overtime, provided the rate of production was uniform throughout the day. Since the men had to work 1.6 hours overtime to secure this amount, the extra recompense represented payment at the rate of 54 cents per hour. Through offering additional compensation without requiring additional time, the bonus was expected to be sufficient to dissuade the workers from delaying production.

No change in the quality of the workmanship was expected under the bonus plan. There always was a tendency to carelessness, but the foreman was relied upon to check it. The increase in the rapidity with which the men worked would not be sufficient to cause greater inaccuracy. If any serious error was made in the drug department, the batch in which the error occurred did not mix properly in the mixing machine and was reported by the operator to his foreman, who investigated the case.

The granting of a bonus to the drug department might cause other departments to make demands for a similar payment. The work in the drug department, however, was entirely different from that in any other. If other departments, furthermore, promised a similar increase in output, the company was not averse to granting a bonus wherever it was applicable even though it might necessitate the employment of more men in the drug department.

The bonus plan was put into effect. The men did not oppose it,

but they professed to be skeptical of its effectiveness in increasing production. During the first week that the bonus was in operation, an average of 350 batches per 8 hours was attained, but production did not reach the 600 mark. Overtime filled out the schedule of production. The superintendent, nevertheless, expected 600 batches per 8 hours to be produced after the plan had been in operation for a few weeks. It was observed that since the bonus of the individual depended upon the output of the entire department, the men watched each other to be sure that every one was performing his share of the work. They thus aided the foreman in speeding up the slow workers.

43. MACBRIDE ELECTRIC COMPANY ¹

SUCCESSIVE ASSEMBLING OPERATIONS. The company's production schedule provided that a new type of machine be assembled successively at four assembly stations. The assembly workmen were to move from one station to another to assist each other as need arose.

GROUP PIECE WAGES. The company decided to pay group piece wages to the assembly workmen, because such payments required less clerical work than did individual piece wages, and probably would promote more effective cooperation and mutual assistance within the group.²

When the MacBride Electric Company started to manufacture a new type of oil circuit breaker, the assembly department operations were laid out progressively through four stations. Each circuit breaker was mounted on a special truck which traveled along a track passing through these stations, to each of which one workman was assigned. The management desired to pay the four men on a piece-rate basis, either individually or as a group.

Under the plan of individual payment each man would receive a stated amount per unit for the operations which he performed. This had the advantage of furnishing a direct incentive to the individual to exert his maximum effort. It was undesirable, however, in that it did not stimulate complete group cooperation. One man in the line might delay all the others either through lack of proficiency or through unwillingness to work at maximum speed. It was impossible, moreover, even under the most satis-

¹Fictitious name used for purpose of disguise.

²See also Deerfoot Rubber Company, p. 178.

factory conditions, to divide the operations between the stations in such a way that a continuous flow of work would be assured. The only method by which the management could overcome these difficulties was to allow the men who were delayed to change temporarily from their stations in order to help the workman at the station where the delay initially occurred. It then would be necessary, however, to determine the relative proportion of the assembly operations at that station performed by the regular man and by the others who assisted him. This would require exact subdivision of the assembly operations at each station and the establishment of piece rates for each subdivision. Increased expense thus would be entailed in the establishment of the piece rates and in the clerical labor necessary for the preparation and issuance of large numbers of piece-rate vouchers.

Under the group payment plan, the management proposed to use a piece rate per finished circuit breaker in determining the total compensation for the group as a whole. The division of the group amount among individual workmen was to be based on individual day rates established with regard to the relative ability of the workmen. If, for example, the piece price set for the complete assembly of an oil circuit breaker was \$11.50 and the men completed eight of them in a week, the total pay-roll for the group would be \$92. Since all four men might not work the same length of time or be assigned the same day rate, it was necessary to multiply each man's day rate by his hours of work to obtain his total day-rate amount. If, for example, these day-rate amounts totaled \$67.60 for the week, the difference between this figure and the piece-work total would be \$24.40, or 36.1% of the day-rate total. To each man's day-rate amount for the week 36.1% then would be added to determine his total compensation under the group piece-rate plan.

Since it was possible, furthermore, that occasionally no oil circuit breakers would be completed in a week and since the men required a minimum amount for living expenses, an arrangement was needed whereby they could be advanced a specified percentage of their normal weekly earnings, this amount to be deducted from the payment for the machines when completed. For practical purposes the payment of the day-rate amount would be satisfactory to the workmen and sufficiently below the piece-rate earnings to protect the company.

The probable result of group piece-rate payment was more thorough cooperation among the men than could be secured under individual rates. An additional advantage was that the plan required no minute subdivision of the operations performed in each station, and, therefore, fewer piece-rate vouchers. Although the plan involved extra clerical work in the calculation of the portions of the group pay-roll due each member of the group, the probable net effect was substantially lower clerical expense than would be incurred under the individual piece-rate method. A disadvantage of the group plan, however, was that payments to the workmen frequently might be irregular; the minimum day rate would be sufficient for subsistence, but the maximum earnings might encourage extravagance.

In order to secure more thorough cooperation among the men who assembled oil circuit breakers and to avoid the expensive detailed records needed for calculating earnings on the individual basis, the management decided to pay the men by a group piece rate. The group plan resulted in satisfactory performance of assembly operations.

44. TONNERRE CURTAIN COMPANY¹

PIECE WAGES. The company employed women to manufacture curtains on piece wages.

BONUS PLAN TO INCREASE PRODUCTION. A bonus plan was installed for the purpose of increasing output.

BONUSES PAID ON INDIVIDUAL DAILY OUTPUT. In order to stimulate constantly and effectively the efforts of the workers, the company decided to compute bonuses on the basis of daily individual output rather than according to weekly, monthly, or quarterly output.

The Tonnerre Curtain Company manufactured curtains from lace materials which it purchased. Women were employed and paid piece wages. Since the output of the employees was unsatisfactory, the company introduced a bonus system. The executives believed that the bonus must be within reach of average employees in order to hold their interest. On the basis of time studies and production records, therefore, the company set, for

¹Fictitious name used for purpose of disguise.

each department, a standard of individual production which the majority of employees could attain. When an employee reached it, she received a bonus of 10% of her total piece-rate earnings for the period.

The vice-president maintained that the period of time over which the bonus was computed affected its efficacy. He determined, therefore, to compare the results secured by computing bonuses according to daily, weekly, monthly, and quarterly production. The employees, consequently, were divided into four groups, and their bonuses were calculated respectively on the suggested bases. Whenever a bonus was to be paid under any of these plans, it was included in the employee's weekly pay envelope, and noted separately on the outside.

The quarterly period was found to be too long, since the worker's interest waned during the intervals. A few operators earned bonuses period after period, but most of them did not operate steadily enough. An examination of the individual daily output of the majority showed that a worker frequently had produced sufficient curtains for half the period to earn a daily bonus, but during the remainder her output was so small that the total was below standard.

Discontent developed among the employees because they thought that the company was paying the more skilled employees a higher piece rate instead of granting a bonus for output above the standard. Use of the monthly basis had similar results. Both of these methods, however, involved less clerical labor than the other plans.

When bonuses were computed on a weekly basis, the interest of the workers was retained. An employee, however, whose output was meager on Monday or Tuesday did not improve during the week, because she thought she had lost that week's bonus. Daily computation of bonuses obviated this difficulty. Employees were interested sufficiently to compute their bonuses at the end of each day, since the calculation was simple. This method, however, required more clerical labor for the computation of bonuses than did any of the other plans.

The vice-president adopted daily individual output as the basis for bonus payments. Average workers were able to secure extra compensation frequently, and the others merited a bonus oc-

asionally. Discontent because of supposed favoritism was therefore eliminated.

45. GRADNOR INSTRUMENTS COMPANY¹

PENALTY FOR FAULTY WORKMANSHIP. The company produced gasoline motor accessories, and charged the accumulated material costs of parts spoiled because of faulty workmanship to the workmen who caused the spoilage. Although the company's rate of labor turnover in periods of active demand was greater than that of competitors who did not charge employees for spoiled parts, the company decided to continue to penalize faulty workmanship because over a period of time that practice seemed to assure economical production.²

(1923)

The Gradnor Instruments Company employed 1,600 men, of whom 80% were machine operatives paid by piece rates. Instruments of various types, such as magnetos, distributors, timers, and carburetors, were manufactured and sold to producers of automobiles, motor-cycles, and marine motors. The plant was located in a city of 135,000. From its inception, the company had followed the policy of deducting from the wages of its piece-workers the value of all parts spoiled in process when the spoilage was the fault of the workmen. During the spring of 1923, there was an unusual demand for machine operatives in the factories of that city, and the rate of the company's labor turnover consequently rose above normal. In the opinion of several executives, the increased labor turnover was caused in part by the ease of securing employment elsewhere, and in part by the company's practice of deducting from the men's wages the value of spoiled work. It was suggested, therefore, that the company discontinue this policy in favor of a more lenient one involving no deductions for spoilage.

The company purchased semimanufactured materials, such as iron and steel bars, and copper wire and bushings for further processing and final assembly. In the factory, the parts passed through various departments, in which they were machined and assembled according to the routing schedules. When parts

¹Fictitious name used for purpose of disguise.

²See also Gilbert Rubber Company, p. 188.

were ready to be sent from one department to another, they were inspected, and the departmental costs were added to the job ticket to complete the cost data up to the point of inspection.

The job tickets showed the name of the workman who performed each process, together with his piece rate. When any pieces in a lot were spoiled, a spoilage slip was made out by the inspector. If he decided that the spoilage was the fault of a workman, he notified the man and wrote on the spoilage slip the man's name and number. If the spoilage was caused by defective material, defective machinery, or any other factor beyond the control of the operative, an entry was made on the slip to indicate that the value of the part should be charged against the department. In the latter case the inspector notified the foreman. Either the operative or the foreman had the privilege of stating his opinion when he did not agree with the inspector's decision. The final verdict, however, rested with the inspector or his superiors.

The inspectors were responsible to a chief inspector who was directly under the authority of the labor manager. In addition to the duties of supervising industrial relations, the labor manager determined piece rates and administered all policies relating to wage payments. Since the labor manager was on an equal basis with the production manager, who controlled the foremen in the production departments, any disputes arising between the inspectors and the foremen, or between the inspectors and the workmen, were settled by conferences between the labor manager and the production manager. This arrangement went far toward freeing the inspectors from bias toward either the foremen or the workmen; as a result there were almost no instances of serious difficulties arising from inspectors' decisions.

The pay-roll department accumulated the spoilage slips that were charged against individual workmen, and deducted the value of the spoiled parts from each man's earnings when the weekly payments were made. Spoilage slips charged against departments were accumulated by the cost department and shown as a total charge against the respective production departments each month. In both cases, the valuation of spoilage included only the cost of the materials used; accumulated labor and overhead charges were neglected and thus were absorbed automatically in

the overhead charges of the department in which the spoilage occurred.

When new men were employed and assigned to machine work with piece-rate remuneration, parts spoiled during the first month were not charged against them. This allowed a fair length of time for learning the work. Since such spoilage was charged against the department during the month, there was an incentive for the foremen to assist new employees in every way. All foremen were rated partly by the amount of spoilage charged against their departments. A foreman, therefore, was always careful not only to provide new employees with adequate supervision, but also to keep the equipment of his department in the best condition; so that there would be a minimum of spoilage chargeable to the department on account of defective machinery, tools, or instructions.

Since the Gradnor Instruments Company operated the only important plant in the community, in which spoilage charges were deducted from workmen's earnings, the executives realized that there was a tendency for workmen to seek employment elsewhere in order to avoid these charges. An increase in the rate of labor turnover, however, took place only during periods of prosperity, when there was ample opportunity to secure positions in other factories, and when there was a feeling of unrest among the workmen. When such conditions existed, employees became careless in their work and attempted to add to their earnings. As a consequence, the proportion of spoiled parts was certain to increase unless an adequate check was maintained. During periods of depression, when there was a scarcity of employment, workmen were careful to avoid spoiling parts, not only because of the resulting deductions from their earnings, but also because the men's spoilage records were important when the labor manager was determining which men should be laid off or discharged.

The management decided that, although adherence to a policy of deductions for spoilage resulted in an increased rate of labor turnover, it was not advisable to discontinue this practice. In making this decision, the company gave more weight to the advantage of encouraging competent performance by penalizing poor work than to the disadvantage that employees might prefer to seek places in other factories. By maintaining this check upon

careless workmanship, however, the company was able over a period of time to produce more economically than competitors, and thus to provide more nearly continuous work for its employees. This fact was recognized by numerous workmen, and assisted the company to counteract the influence which caused labor turnover.

46. GILBERT RUBBER COMPANY¹

PENALTY FOR FAULTY WORKMANSHIP DISCONTINUED. In the finishing department, the company paid piece wages. About 6% of the output was imperfect because of poor material or faulty workmanship. The operators were required to finish without pay rubbers to replace those carelessly completed. Since this plan of penalizing workmen created ill will because of unfair administration, the company decided to discontinue it. After four months, defective products were 3½% of the output.²

The Gilbert Rubber Company manufactured rubbers, rubber boots, and other rubber products. In the rubber finishing department the final operation was that of attaching the soles to the uppers. In that department, only one man worked on each rubber, and on completion he stamped his number on the sole. The product then was sent to the packing room where it was inspected. It was the company's practice to impose a penalty upon the workmen in the finishing department for faulty rubbers. The factory manager, however, was not convinced that the practice was advisable.

Six per cent of the rubbers inspected were unsatisfactory. Poor material caused one-third of the defects; the defects of another third could be attributed directly to poor workmanship of the operators in the finishing department; the defects of the remaining third were such that inspectors could not determine definitely whether the faults were due to poor workmanship or to the quality of the material. The workmen in the finishing department were paid piece rates, and it was a rule of the company that, for every finished rubber which was defective because of faulty workmanship, the responsible workman must finish, without pay, one that

¹Fictitious name used for purpose of disguise.

²See also Gradnor Instruments Company, p. 185.

was satisfactory. The number of rubbers finished by workmen without pay was about 3% of the total output.

It was the duty of each foreman in the finishing department to make sure that the men under him made duplicates, without pay, for all defective rubbers. Investigation showed that the inspection of the product was conducted carefully and impartially. The finishing department foremen, however, had been accused of showing favoritism in applying the penalty. The factory manager believed that the charge was justified. By keeping a record of the rejected rubbers that were packed as seconds and of the duplicates manufactured, the company could have determined whether or not the foremen always required duplicates when requested by the inspectors. Such a plan, however, would have necessitated additional clerical labor and close supervision of the foremen by the factory manager. The factory manager was convinced that the foremen would resent any supervision which cast discredit on their fairness.

Since there were many border-line cases where defects could have been caused either by workmanship or material, unjust penalties were certain to be imposed occasionally, even in the absence of favoritism. In the opinion of the factory manager, penalties, whether deserved or not, lowered the morale of the workmen.

If the existing penalty were discontinued, an increase in the percentage of defective product might result. The factory manager believed, however, that this could be prevented by the following plan. The inspectors were to be required to send unsatisfactory rubbers to the foreman who was responsible for them. The foreman was to take the rubbers to the man who had worked on them, show him the mistakes, and instruct him in the correct manner of performing the operation. It was believed that this duty would be performed impartially without the necessity of rigid supervision of foremen, and that the workmen would be benefited. It was hoped that a friendly cooperation might be secured between the foremen and the other employees in the finishing department which would be as effective in controlling the number of defective rubbers produced as the penalties had been.

The plan was put into operation, and after four months the

number of unsatisfactory rubbers was reduced until only $3\frac{1}{2}\%$ of the product was rejected.

47. FOGEL MACHINING COMPANY¹

INSTRUCTION OF APPRENTICES. Classroom studies and manual work in machining, pattern-making, and drafting were included in the apprenticeship course to be given by the company. A school building was planned for classroom work. Because of the opportunity for more strict supervision, the company decided also to equip a school workshop in which to give preliminary manual instruction, but to have apprentices complete that training in the factory departments.

When the Fogel Machining Company organized an apprentice school, it had to decide whether the manual instruction should be given in a school workshop or in the factory.

Young men between the ages of 16 and 18 years, who had technical aptitude and grammar school education, were to be admitted, with the consent of their parents or guardians, to a four-year apprenticeship course in machining, pattern-making, or drafting. Graduates of high schools were to be allowed a year's credit, provided that, at the end of three years, they could satisfy the requirements of the instructors; otherwise, they would be obliged to complete their four years in the school.

Part of each day was to be spent in classroom instruction and the remainder in manual work. After three or four weeks of preliminary training, the apprentices were expected to apply their knowledge to actual production.

In some respects, it seemed that the manual work of the apprentices could be performed most advantageously in the factory departments for which they were being trained. In those departments were all the tools and equipment in the use of which the boys were required to become proficient.

There was adequate machinery in the factory departments to accommodate the apprentices. Plans could be made to reserve machines for use by apprentices only, and to arrange classes so that the students would follow each other and thus maintain continuous output. Their presence, therefore, would not interfere with production. The company had no objection, however,

¹Fictitious name used for purpose of disguise.

to the expense of installing machines in a separate school shop.

Working side by side with skilled men whose methods they could copy, the apprentices would have opportunities to develop dexterity through competition.

It seemed unwise, however, to subject boys, especially those desiring to become machinists and pattern-makers, to competition with journeymen too early in the period of training, lest in their endeavor to develop speed they should neglect caution and injure themselves as well as the equipment and materials with which they were working. In the school workshop they could learn more slowly and carefully, under strict supervision. There was a risk, furthermore, that the departmental foremen might not take sufficient interest in the apprentices to aid them in developing skill in the use of all the types of equipment.

As a compromise it was suggested that a workshop be included in the school building, and that it contain the machinery necessary to preliminary training in mechanical practice. The actual work of machinist and pattern-maker apprentices would be performed in the workshop for one year or until the instructors were satisfied with their competence to work in the factory. Thereafter those apprentices were to spend part of each day in the departments for which they were preparing. To insure that they received adequate supervision, an official of the school should visit them weekly to note their progress and to interest the foremen in their welfare. By this method, the apprentices would gain the advantage both of careful preliminary training and of thorough factory experience.

The apprentice draftsmen were to enter the factory drafting room as soon as their instructors decided that they possessed sufficient foundation and technique; after they had advanced to that point, the school could teach them little that they could not learn more readily in the drafting room.

This compromise plan, however, involved two points that might have injurious effects upon the boys' morale. First, the wages of apprentice machinists, for instance, were approximately one-half those received by experienced men. It was possible that the boys might become dissatisfied if, having improved to the point where they apparently performed operations as effectively as the older men, they compared wages with them. This objection was met,

however, by the declaration that in place of the higher wages, apprentices would receive valuable training and education to fit them for advancement. If the apprentices resigned without adequate reason, they would forfeit all rights to future employment by the company, whereas they were promised cash bonuses and permanent positions if they finished their courses.

A second disadvantage was that the machine, pattern, and drafting departments were from three to five minutes' walk from the school building. Apprentices, therefore, might waste time when traveling back and forth each day. If definite time allowances were made for traveling, however, and each apprentice was obliged to stamp one card when entering and leaving the shop and another when entering and leaving the classroom, the time spent between places could be controlled.

Inasmuch as the management did not anticipate wage dissatisfaction on the part of the apprentices, and was convinced that the use of two time cards guarded against wasted time, it decided to adopt the compromise suggestion.

48. CHILLICOTHE PAPER BOX COMPANY¹

MINIMUM WAGES—STATE RULING. A ruling, made by a wage board under a minimum wage law, provided minimum wages for a number of women employed by the company.

PIECE WAGES. These employees were paid by the piece-rate system. The rates had been fixed after a careful analysis of working conditions.

PERFORMANCE STANDARDS, ANALYSIS OF FAILURES TO ATTAIN. The company decided to require its employees to attain a rate of production which yielded earnings in excess of the minimum. The company investigated all cases in which women failed to attain the standards, and divided them into three groups. Those who lacked sufficient skill were given further training; others unsuited to the work were transferred to other departments; and those who habitually relied on the legal minimum were discharged.

(1920)

In July, 1920, the Chillicothe Paper Box Company had in its employ 568 girls as box-makers, who were paid on a piece-rate basis. About 150 of them were highly skilled; the remainder,

¹Fictitious name used for purpose of disguise.

however, possessed only medium skill. All these employees had been given a careful training for three months before being placed in the box-making department.

In July, a ruling was made by the wage board of the state, providing a minimum wage of \$15.50 per week for female box-makers. The management of the Chillicothe Paper Box Company adopted the policy that each employee affected by the ruling should be required to attain a rate of production which would bring her earnings appreciably above the legal minimum. The purpose of this plan was to obviate the possibility of employees' becoming careless and depending in part upon the minimum wage ruling for their incomes.

At the time the decision was made, the average earnings of these girls were \$20 per week. At the end of the first month's operations under the new requirement, the production records showed that 40 girls had not earned the legal minimum wage of \$15.50 per week, although the average earnings remained at \$20 per week.

The piece rates then in force were the result of studies which had been made with full allowance for working conditions, the various types of operators, the tools and materials, and the other elements necessary for the fixation of fair rates. The company believed that the rates in use were just. For this reason, the executives thought it inadvisable to increase the rates; the employees, consequently, were expected to bring their earnings well above the legal minimum wage by increased production rather than by a changed piece rate.

The employment manager of the company was called upon to outline a plan to insure that these employees should produce the output necessary to yield them earnings well above the minimum. To meet the situation, he secured permission from the state authorities to pay employees in the paper box department on a monthly instead of a weekly basis. The piece-work in the department was somewhat irregular; since orders frequently were not finished in one week, payments could not be made evenly, by weekly settlements. Once a month a list of all girls whose earnings averaged less than \$15.50 per week during the month was prepared. The case of each girl on the list was made the subject of an interview with her divisional superintendent. Nearly all cases could be classified under one of three headings.

The first group consisted of girls who lacked sufficient training to attain the desired rate of production. In such cases, they were sent back to the training department in order to acquire further skill.

In the second classification were girls who had adequate training and were conscientious workers, but who were not suited to their work. In these instances they were transferred to departments to which they were better adapted.

Under the third heading were those who were unwilling to produce the output required and were relying upon the state ruling for maintaining their wages. It was explained to these employees that if they did not wish to change their attitude and endeavor to comply with the company's expectations, discharge would follow.

This method of meeting the situation was satisfactory. The number of girls failing to earn more than the minimum wage was reduced from 40 in July, 1920, to 4 in November of that year. After the plan was put into effect, only 5 employees were discharged for failing to meet the company's requirements during the period from July, 1920, to March, 1923.

49. ANGELL ELECTRICAL COMPANY¹

SUGGESTION SYSTEM—ACCEPTANCE OF EMPLOYEES' MINOR SUGGESTIONS.

Awards were offered to employees for acceptable suggestions as to improvement of manufacturing methods and installation of accident-prevention devices. The company decided to accept minor suggestions that showed constructive thought or need of protection against accidents even though they seemed of little practical value. This policy was expected to promote development of more valuable suggestions and to strengthen the morale of employees.

After a "works suggestion committee" had been created by the management of the Angell Electrical Company with power to accept or reject suggestions made by the workmen, it became evident that there was a wide range in the quality of the suggestions submitted. A few suggestions deserved serious attention; the majority, however, were of minor importance. It was necessary, therefore, to adopt some policy in regard to them.

¹Fictitious name used for purpose of disguise.

A general educational campaign had been conducted by the Angell Electrical Company in its house organ to encourage workmen to suggest improvements in methods of manufacture and accident-prevention devices to supplement those required by law. Awards of from \$5 to \$1,000 were offered for valuable ideas; the names of the authors together with brief descriptions of their suggestions were to be published bimonthly in the house organ. The company was self-insured against payments required by law for workmen's compensation.

One group of executives desired the acceptance of all suggestions that appeared to be justified and that showed application of thought or creative ability, whether or not there was actual need of the idea. They stated that it was to the advantage of the company to safeguard every operation as fully as possible, not only because of the cost of time lost through accidents and of consequent compensation, but also because of the effect on the morale of the employees. Workmen rarely regarded compensation payments as adequate for losses caused by injuries. The company sought, therefore, to reduce the risks of injury in order to have satisfied workers rather than receivers of doles. Better cooperation with the suggestion committee, furthermore, was possible if the workmen realized that the management was doing all in its power to prevent accidents.

If a man suggested, for example, that a specific gear on a machine at which he was working be covered by a guard, whether or not the guard was necessary, he indicated anxiety and lack of confidence. If the guard was not furnished, the psychological result was a lowered morale, caused by the man's opinion that he was unprotected against injury.

Since the company desired valuable suggestions, it seemed advisable that the committee also accept many suggestions of little merit for the purpose of encouraging the authors to develop further ideas of more value.

Other officials advocated the acceptance of only such suggestions as were of obvious practical worth. They expressed the opinion that many workmen, if encouraged by rewards for the adoption of their ideas, might believe themselves inventors rather than mechanics, and waste time endeavoring to conceive something new. It was asserted, furthermore, that economic value

should govern the adoption of suggestions; that is, the issue was not whether the suggestions gave evidence of constructive thought or fear of accidents from a given source, but whether they represented sound investments.

The company decided to follow a policy of accepting minor suggestions whenever possible, in order to encourage submittal of further ideas which might prove valuable, and to provide safety devices for apparatus. It appeared to the officers that the necessary outlay for payments of small awards to many employees was justifiable because of the increased likelihood of receiving important suggestions.

50. LESTRADE TOOL COMPANY¹

LOAN FUND FOR EMPLOYEES' HOUSES. In 1919, because of a serious housing shortage, an employees' committee petitioned the company to build necessary houses. Because property values decreased unless the operations yielded a profit, and because rented houses failed to instill pride of ownership and habits of economy in employees, the company decided not to build additional houses, but to set aside a trust fund from which an employee could borrow on a second mortgage.

(1919)

In 1892 the Lestrade Tool Company, located in a town of 15,000 inhabitants, 20 miles from a large city, erected 32 company houses. The building operation was undertaken in accordance with a policy of providing dwellings to rent to a majority of the company's employees. After the 32 houses had been constructed and rented to employees, the policy was discontinued because it suggested undesirable paternalism.

At the time it ceased to build houses, the Lestrade Tool Company was the only commercial enterprise of importance in the town; subsequently, several other manufacturing companies, among which was the Wilkes Motor Company, were developed there. In 1905 the latter company commenced to build houses which it intended to rent to its employees. The building operations were conducted on an extensive scale and in 1913 the Wilkes Motor Company decided to rent a number of its houses to persons other than employees. Among the new tenants were employees of

¹Fictitious name used for purpose of disguise.

the Lestrade Tool Company. Both companies normally had about 3,000 employees.

The housing situation in the town gradually became more unsatisfactory, until in 1919 a serious shortage of dwellings occurred. In the autumn of 1919 the Wilkes Motor Company evicted all tenants who were not in its employ. Forty-five families, the heads of which worked for the Lestrade Tool Company, were forced to leave the houses which they had rented. The heads of these families requested the labor manager of the Lestrade Tool Company to assist them in finding new quarters. The labor manager was unable to do so, and the majority of the families could not find any accommodations within satisfactory distance from the plant. Under these circumstances they found it necessary to sever their relations with the company and to move to other localities. As a result, the company was forced to define its attitude toward employees' housing facilities.

A committee of workers proposed to the general manager that the Lestrade Tool Company take immediate steps to erect houses to rent or sell to the employees. The committee pointed out that the company owed its employees protection against the conditions which had forced most of those evicted from the Wilkes Motor Company's houses to leave their work and go elsewhere. It was stated also that the policy of providing houses would attract new employees, strengthen the bonds of interest between the company and its employees, restrict labor turnover, and serve as a concrete example of the principles for which the company stood.

The officials of the company were opposed to the principle of company housing. They believed that the erection of dwellings for workers involved an unwarranted investment of non-productive capital and, possibly, losses through depreciation. They stated that houses built under such a plan tended to hold down land values in the town unless the company operated the property at a profit, and in the latter case the company risked the accusation of making profits at the expense of its employees. Serious difficulties might arise also in connection with a strike or other unusual contingencies.

No losses had been incurred in the maintenance of the original group of houses. They had been built, however, at low cost,

and despite an increase in their value because of the town's development, the company had not deemed it advisable to seek to have the rentals provide more than a return for actual outlays.

The executives agreed that a method should be found to assist the company's employees to meet the difficulties then existing in securing suitable homes. To accomplish this purpose, they suggested that the company establish a trust fund amounting to \$100,000. This fund was to be used for the assistance of employees whose records with the company were satisfactory and who decided to purchase or build their own homes. Each worker who decided to build was to be required to invest his own funds to the extent of 10% of the total value of the home to be purchased. He was then to secure a satisfactory first mortgage from a bank or other reliable source. The company agreed to recommend worthy employees who sought to arrange for such mortgages and who might find difficulty in doing so without the support of the company.

The housing fund itself was to be lent on second mortgages needed to complete the establishment of credit for employees. In this way those workers who themselves had not sufficient collateral to finance the building of homes would find no difficulty in securing needed credit at a rate of interest not to exceed 6%. The company was confident of its ability satisfactorily to dispose of the property of any employee who was compelled for good reasons to move away from the town before he had paid fully for his house. The fund was to be administered by four trustees, two named by the company and two elected by the employees from among themselves.

The company decided that it was better to assist employees in the manner described than to build and rent houses to them. An important reason for the decision was that it made probable a development of pride and responsibility among purchasers of houses. This had not been accomplished by the company housing plan. Ownership of a home usually stimulated economy, and provided a definite goal toward which to work. Improvement in the financial status of the owners was likely. The mortgage agreements, moreover, were expected to restrain employees from leaving the community without sound reasons.

Since provision was made for the employees as a group to share equally with the company in the administration of the

fund, there could be no suggestion of discrimination or unfairness. An attitude of friendliness toward the company on the part of its workers, aside from the usual relationships in the plant, seemed probable.

The executives decided that the plan as outlined was satisfactory from the company's point of view and they placed it before the employees through a standing committee. The plan was accepted by the employees' committee in place of the committee's original suggestion that the company itself erect houses for rent or sale.

51. CALDWELL TELEPHONE COMPANY¹

RETENTION OF SKILLED EMPLOYEES. Retention of the company's skilled employees was essential to satisfactory telephone service.

EMPLOYEES' BENEFIT FUND. The company decided to adopt a benefit-fund plan to provide pensions and aid for employees or their families in cases of old age, sickness, accident, or death. Since mutual contributions might be discriminatory and difficult to obtain if made voluntarily, or might cause resentment if they were compulsory, the company decided to pay all expenses of the benefit plan.

(1912)

In 1912 the Caldwell Telephone Company discussed the question of instituting a benefit fund for its employees, of whom about 140,000 were likely to be affected by the provisions of the fund. The company served an extensive area comprising several states, and there was a correspondingly wide distribution of employees.

Other telephone companies followed varying policies in respect of employee benefits. Many of those companies had special payrolls on which were carried long-service employees too old to work or temporarily unable to work because of sickness or accident. In other localities, however, allowances were less generous because the privileges were abused; employees' claims for injuries from accident, for instance, often were exorbitant.

The plan outlined by the Caldwell Telephone Company included pensions for long service and for permanent disability

¹Fictitious name used for purpose of disguise.

from sickness, accident disability benefits, sickness disability benefits, and death benefits. With the exception of the accident disability and accident death benefits, the payments were to be related to the term of continuous service with the company. The plan was summarized as below:

SUMMARY OF BENEFITS

Pensions

Retirement on pension is provided for employees who are included in the classes listed below. Employees in class A may be retired on pension either at their own request or at the discretion of the committee. Employees in classes B and C may be retired on pension only at the discretion of the committee and with the approval of the president or vice-president.

Class A—Employees whose age is 60 years or more, females 55 or more, and whose term of employment has been 20 years or more.

Class B—Employees whose age is 55 to 59 years, females 50 to 54, and whose term of employment has been 25 years or more.

Class C—Employees whose age is less than 55 years, females less than 50, and whose term of employment has been 30 years or more.

Class D—Any employee whose term of employment has been 15 years or more and who becomes totally disabled by reason of sickness may, at the discretion of the committee and with the approval of the president or vice-president, be granted a disability pension, which shall continue for such period only as the committee may decide.

The amount of the annual pension in any of the above cases is 1% of the average annual pay for 10 years, multiplied by the number of years in the employee's term of employment.

Example: An employee whose term of employment at the time of retirement has been 30 years and whose average pay for 10 years has been \$1,500 a year, will receive an annual pension equal to 30% of \$1,500, or \$450, payable in monthly amounts of \$37.50.

NOTE: The minimum pension will be \$30 per month, but this is not to apply to disability pensions granted to employees of less than 20 years' service or to pensions granted to "part time" employees.

Accident Disability Benefits

Total Disability—Full pay 13 weeks, half-pay for the remainder of disability. Maximum benefits to be \$20 per week after 6 years of benefit payments.

Partial Disability—For first 13 weeks, 100% of loss in earning capacity; for remainder of disability, 50% of loss in earning capacity. Period of payments not to exceed 6 years in all.

Sickness Disability Benefits

These benefits begin on the eighth calendar day of absence on account of sickness and are as follows:

(a) For employees whose term of employment has been 10 years or more:

Full pay 13 weeks; half-pay 39 weeks.

(b) For employees whose term of employment has been 5 years or more, but less than 10 years:

Full pay 13 weeks; half-pay 13 weeks.

(c) For employees whose term of employment has been 2 years or more, but less than 5 years:

Full pay 4 weeks; half-pay 9 weeks.

NOTE: Benefits are not provided in the plan for sickness of employees of less than two years' service. In such cases, such practice as the company may establish from time to time will be followed.

Death Benefits

These are payable only to wife, or husband, or dependent relatives of deceased employees and are:

(a) Sickness Death Benefits.

If employee's term of employment has been 10 years or more:

One year's pay not to exceed \$2,000.

If employee's term of employment has been 5 years or more, but less than 10 years:

Six months' pay, not to exceed \$2,000.

(b) Accident Death Benefits.

Three years' pay, not to exceed \$5,000, and the necessary expenses of burial, not to exceed \$150.

On the basis of the experience of other companies and from the relatively meager records of its own employees' service and disabilities, the Caldwell Telephone Company estimated that for 15 years at least the necessary annual payments under the plan would approximate 2% of the total pay-roll. Because of inadequate data, the probable amount of payments after the plan had been in force for 15 years was not calculated, but the percentage of outlays to pay-roll would increase greatly after that period. It was proposed that a specific sum of money be set aside out of which to pay the benefits. The company was to be the custodian of this fund, which was to be credited semiannually with interest at 4% per annum on the average balance. Each year the fund was to be restored to the original amount, provided this did not require more than 2% of the company's pay-roll. The board of directors was to appoint a committee of five executives to have charge of the administration of the benefit payments.

From the point of view of business policy, a benefit plan was desirable, since, by freeing the employees from worry as to the

future, it tended to increase their productiveness and it assisted in the establishment of mutual interest and cooperative relations between them and the company.

It was believed also that the adoption of such a plan would result in a lower rate of labor turnover. Satisfactory telephone service was dependent largely upon the retention in the company's service of employees with long experience. Their training, moreover, enabled them to instruct new workers. Experience in other lines was not of direct benefit; each person who entered the organization had to be trained. The resignation of an employee, therefore, resulted in a direct loss, the extent of which depended partly upon his or her length of service. The benefit plan provided an incentive for employees to remain in the company's service; it was expected, moreover, to attract more applicants for employment, from whom the company could select those of the most desirable type.

Several of the executives, however, did not believe that the benefit plan was likely to result in the tangible advantages described. They were of the opinion that employees were not interested in a benefit plan unless they became ill or met with an accident. The plan might give them a sense of security, but it could not be expected to act as an important deterrent if they desired to resign. These executives were not convinced of the effectiveness of the plan in increasing the number of applicants for employment. There was a possibility, furthermore, that the sickness benefits might have a tendency to encourage malingering on the part of employees. The company was not required by statute to adopt this, or any other, form of protection for employees.

The executives agreed, however, that there was a social need for a plan of this kind. The suggestion was made that it might be preferable to institute a mutual plan under which contributions for the maintenance of the benefit fund would be made both by the employees and by the company. The committee in charge of the administration of the benefit payments under such a plan would include representatives of the employees. The employees who left the company would lose the amount which they had contributed to the fund. A benefit plan of this kind, therefore, should be effective in reducing labor turnover. Since one objection to a benefit fund was that it lessened an individual's incentive to provide for his own future, mutual contributions would be

advantageous as means of counteracting that feature. The expense to the company also would be less. Under the non-mutual plan the company would have full control and could change the benefit provisions if necessary. Such a step, however, would be likely to make the employees lose confidence in the plan.

If the mutual benefit plan were adopted, all employees must be compelled to participate in it, or the advantages must be allowed only to those who subscribed. In the first instance, only those employees could be retained who agreed to cooperate with the plan, and the company would be limited in its selection of other employees to those who were willing to contribute. The results of this policy obviously would be disadvantageous to the company and to the employees. If only subscribers to the plan were included in the benefits, the result was likely to be the exclusion of those who were in greatest need of assistance.

The Caldwell Telephone Company believed that either of the policies which had to be followed under a mutual benefit plan would defeat the purpose of the plan, namely, to benefit all employees, regardless of whether or not they gave their approval. The management decided, therefore, to adopt the benefit plan originally proposed.

During the year 1921, about 17% of the employees received benefits under the plan. The cost to the company during that year was slightly less than 1.5% of the total pay-roll. No effect on the labor turnover or on the number of applicants for employment was observed.

52. THRASHER COTTON MILLS COMPANY¹

SALE OF COMMON STOCK TO EMPLOYEES. Early in 1923, representatives of the company's 11,000 employees requested that provisions be made to sell them common stock on an instalment purchase plan. Because employee ownership of stock seemed likely to promote more ready cooperation, the company decided to buy and offer 5,000 shares at about 5 points below the market price.

STOCK MARKET RECESSION. Nearly one-half the shares were subscribed for; then a stock-market recession caused employees' purchases to cease. The remaining shares were held for later sales to employees.

(1923)

¹Fictitious name used for purpose of disguise.

The Thrasher Cotton Mills Company, which operated three mills for the production of cotton cloth, had 11,000 employees. In the spring of 1923, a committee of employees requested that the company allow workers to purchase common stock of the company under a plan of instalment payments. The market price of the stock was about 96. The dividend rate was 6%, and dividends of at least 6% had been paid continuously since 1890. The company had an opportunity to secure a block of 5,000 shares at 91 from an associated company, and contemplated resale at the same price.

It was the policy of the company to comply with reasonable requests from employees whenever possible. Approximately 750 employees already had purchased the company's stock on the open market. Other employees desired to invest in the stock because they were familiar with the company and had confidence in its ability to pay dividends. They did not have sufficient funds, however, to make immediate payment, and sought the adoption of the instalment plan because it allowed them gradually to acquire ownership of the stock.

The interest of employees in the company's prosperity was thought to be stimulated by ownership of stock. Although not every worker was expected to become a stockholder, those who purchased were likely to be the leaders and the most influential among their fellows. As stockholders they would realize that whatever was advantageous to the company, benefited them. It was desirable, furthermore, for the company to encourage among the employees a sense of importance as part owners of the corporation. Under this plan the Thrasher Cotton Mills Company could expect better cooperation in securing economy of operation and in readjusting wages. A reduction in labor turnover also was possible, because workers who owned shares were not likely to seek employment elsewhere.

The officers believed that the results of the sale of common stock to employees by several large companies, such as the United States Steel Corporation and the American Woolen Company, were satisfactory. The interest of employees in the prosperity of those companies was said to have been strengthened by stock ownership.

Plans for sharing profits with employees had been rejected previously by the company because the workers might have

looked upon such payments as an indication of a low level of wages. Employees generally preferred high wages to gratuities. Even the semblance of giving the latter would be avoided by the sale of common stock because when employees became part owners of the company, they shared the earnings at the same rate as other owners.

If the stock bought by employees were held as an investment and not sold when the price declined slightly, reduction in the market fluctuation of the stock was possible. A wider market for the stock was provided also, because employees were likely to purchase additional shares subsequently on the open market after they had formed the habit of saving. If employees found it necessary, on the other hand, to sell on the market at a price below 91, the discontent and resentment caused by such losses might defeat the purpose of the plan. It was suggested to the officers, furthermore, that the interests of employees were not served by investments of savings in the company which furnished their livelihood. They were especially in need of income from savings when the company was not prosperous and when employment was uncertain. At such times, however, the market price of the stock was likely to be low, and dividends reduced.

It was probable that comparatively few workers could avail themselves of the opportunity presented by the plan, and hence the benefits to be derived by the company were limited. A frequent disadvantage of the sale of common stock at less than the market price was that employees might sell their rights to subscribe or dispose of the stock to individuals not employed by the company. A few companies avoided this difficulty by paying a bonus to those who held the stock for a specified period of years. Since it could be specified that the stock was not to be sold until it was purchased in full, instalment payments extending for a year or more would prevent immediate disposal of stock. It could be stipulated that after an employee completed payments and became an outright owner of the shares, he would be justified in selling them when he desired. If restrictions on the right to sell were imposed, the discriminations would remove employees from the class of holders of common stock.

Another plan suggested for eliminating risk of loss to employees from a decline in price was to create a special class of stock. This stock would not be negotiable and would be preferred as to

dividends. A fixed minimum rate could be established which would equal the dividend rate on the common stock with a provision that it be raised to correspond with increases in the common stock rate. Thus employees would be assured of sharing profits equally with common stockholders without the risk of a serious decline in price. They would not be given voting power and would be unable to sell the stock except to the company at the price paid. This plan would have an advantage for the company in that the desired amount of stock could be issued and sold at any figure decided upon, regardless of the market price for common stock.

This suggestion was not adopted, because it eliminated the advantages to be gained by the company from employee ownership of common stock. Unless risks were shared by employees, there was no incentive for them to cooperate with the management. The risk involved could be explained fully before agreements to purchase were made and no one was to be urged to buy the stock.

The officers recognized that employees' entire savings should not be subjected to risks in the company which supplied their chief means of livelihood. Since the probable subscription of each worker was only two or three shares, the investment would not constitute all his savings. Some employees, however, were not likely to save the amounts necessary for the purchase of stock unless the instalment plan were offered.

The officers decided to purchase the block of 5,000 shares and to sell the stock to employees on instalment terms. Employees could agree to purchase from one to five shares at \$91 per share. If subscriptions to more than 5,000 shares were received, the company reserved the right to reduce the number of shares allotted in order to allow at least one share to each applicant. It was specified that \$5 per share be paid within five weeks after date of announcement of the plan, with additional payments to be deducted from pay at the optional rate of either \$1 or \$2 per share each week. The company was owner of this stock until full payment was received, but dividends declared were credited to the account of the purchaser. Interest at the rate of 5% per year on unpaid balances was charged quarterly. Employees were permitted to cancel purchase agreements at any

time, and to recover the total amounts paid, less dividends. There were no transfer rights until the stock was paid in full. The following paragraph was contained in the announcement of the plan:

The company is now paying 6% dividends, that is, \$6 per year on each share of stock, but of course cannot guarantee the future rate or the future market price of the stock. All employees who become stockholders under this plan will, after receiving their stock, thus be on exactly the same basis as any other stockholders, with the same rights and benefits and the same risks.

In the five weeks which intervened between the announcement of the sale and the last day on which applications were accepted, the market price of the stock declined from \$97 to \$90, in accordance with a general downward movement in stock prices. In spite of that fact, however, 2,376 shares were purchased by 695 employees who had owned no stock in the company. The officers realized that the offer was made at an unfavorable time. Those who subscribed under the plan, however, did not cancel their commitments. The remaining stock was held in the treasury until employees should request another opportunity to purchase stock on instalment payments.

53. TAREYTON MILLING COMPANY¹

TRANSFER OF EMPLOYEE. The company planned to reward a reliable but unskilled worker by transferring him to a position in which his earnings eventually would be increased.

WAGES—ADJUSTMENT FOR TEMPORARY DISCREPANCIES. The change included a temporary reduction of wages, however, which the worker could not afford to accept. The company decided to allow him one-half the difference between the former and the new rates of pay and to provide overtime work sufficient to offset the balance of the reduction until he could earn his previous wage.

The Tareyton Milling Company wished to provide for the promotion of Thomas Downs, who had been in its employ for four years. During that time, he had shown his loyalty, faithfulness, and dependability, so that for two years he had been receiving \$28 per week as one of the best unskilled workmen in

¹Fictitious name used for purpose of disguise.

the plant. He had reached the maximum wage, however, for that class of labor. The management, therefore, was confronted with a serious difficulty in arranging for his promotion because he would have to begin in a different department and learn a new type of work at \$20 per week.

The opening available for Downs was a machine job, in which an operator eventually could earn as much as \$38 per week. The superintendent in charge of the department had requested the employment manager to furnish him with a suitable man, but insisted that he could not accept any one at an initial rate higher than \$20 per week, because he was responsible for keeping the cost of goods produced in the department as low as possible.

The company's policy was to reward faithful services by filling the better jobs with employees who had demonstrated their worth. The employment manager thought that Downs should have this opportunity and explained to him that at first he was to receive only \$20 per week, but that at the end of six months he no doubt would be making more than \$28 per week, and that ultimately he could earn \$38 per week. Downs appreciated the situation, but informed the employment manager that, since he had to support his wife and three children, he could not work for less than \$28 per week.

The division superintendent estimated that to pay Downs for machine work at \$28 per week from the beginning involved a loss of about \$100 to the department. The company did not compel superintendents to accept men at higher rates than the official starting wage.

The employment manager and the division superintendent were unable to agree on this question, and it was referred to the general manager of the plant, who investigated the entire subject. He found that this problem was one which occurred frequently. He was convinced, nevertheless, that the company had no right to charge into the cost of goods the excess wages caused by the transfer of a man from one job to another without a reduction in wages, when the starting rate of the new job was lower than the remuneration formerly paid. It was apparent, however, that there was an intangible percentage of cost involved in the training of men and in proving the reliability and faithfulness of each individual employee. The men who had shown that they pos-

sessed these qualities were worth more to the company than new, untried men. The general manager, furthermore, realized that a definite plan to facilitate the transfer of desirable men from one department to another had the advantage of encouraging workers to develop the qualities necessary for advancement. This incentive would be lacking if men already working in the plant saw the positions which led to higher wages and greater responsibility filled by new men.

The general manager, therefore, believed that the company should capitalize those qualities which proved a man worthy of promotion. This could be accomplished by the company's assuming half the difference between the man's established wage at his former job and the starting wage at the new one, since his demonstrated ability was worth that much. Thus the earnings of a man who was transferred would be lowered by one-half the difference between the compensation for the two types of work. The acceptance of a temporary reduction in wages by an employee who was ambitious and eager to advance proved that he could visualize the opportunities presented to him.

The general manager, therefore, decided to authorize and instruct division superintendents to accept worthy men for the departments on the recommendation of the employment manager. Wages were to be adjusted according to the method described. Thus a man who had been earning \$30 per week as a maximum wage for one type of work could be transferred to a different department to start on a job ordinarily paying \$20 per week and receive \$25 per week, provided that the new job was expected to yield subsequently a return greater than that of the man's former occupation.

When this ruling was applied, Downs stated that it was impossible for him to accept even the reduction of one-half the difference between the two rates of payment. The general manager then decided that the extension of further assistance to men in similar circumstances was advantageous to the company. He instructed the employment manager to prepare and maintain a list of all opportunities arising throughout the plant for overtime work. There were various jobs such as cleaning after working hours, washing windows, loading and unloading goods at irregular times, and minor construction work on which men could be given

employment in addition to their main jobs. It was calculated that the total income of a transferred employee would be sufficient to live on until he earned an increase. Downs thus was enabled to earn his usual wages while acquiring proficiency in his new work. This plan was expected to give the employment manager further evidence of a man's steadiness and desire to work for an advance.

54. PORTER MANUFACTURING COMPANY¹

SUPERVISION—CORRECTION OF PARTIALITY SHOWN BY FOREMEN. A newly appointed employment manager received complaints from numerous workmen in regard to partiality shown by foremen who had relatives or intimate friends under their supervision.

TRANSFER OF EMPLOYEES. Although there was the risk of antagonizing the foremen and of disturbing production schedules temporarily, the employment manager decided to assign to other departments all employees who might receive preferential treatment.

(1915)

The Porter Manufacturing Company manufactured steam pipes and fittings in a plant where 1,800 men were employed on an open-shop basis. Not more than 15% of the employees were members of unions. In 1915 the company established the office of employment manager and brought in an executive trained in employment work. The factory manager, division superintendent, and foremen previously had supervised labor matters in connection with their other duties. The foremen, consequently, had acquired complete authority to employ and discharge all workers who came under their direct supervision. This authority was withdrawn and vested in the employment manager.

The latter discovered labor difficulties in the factory attributable to the fact that many of the foremen had collected groups of relatives and close friends to work for them. As a result, charges of discrimination and unfair treatment were made by the other employees. He received protests from several employees in one section who asserted that their foreman was displaying favoritism toward his brothers and three other relatives who were working for him. This foreman had not distributed piece-

¹Fictitious name used for purpose of disguise.

work equitably and had given the most desirable work to his relatives and friends. The ordinary jobs had gone to the other workers in his group and a few unpleasant jobs had been assigned to employees whom he disliked.

The employment manager learned also that similar conditions prevailed in other parts of the factory.

One of the first actions of the employment manager had been to install a system of rating cards, which were simple in design. One of these cards was made out for each employee in the factory and was to be filled out once every three months by the employee's foreman to show briefly the length of service and the work record of each person. Impartiality on the part of the foremen was essential, if the rating cards were to measure accurately the employees' capabilities. The cards were to supply basic information needed for the proper selection of employees for promotion.

The employment manager questioned whether any foreman should be permitted jurisdiction over relatives or men with whom he had been friendly before they entered the employment of the company. He realized that to change the distribution of workmen in the factory would cause a temporary disturbance of production and possibly lead to controversies with some of the foremen. The latter had resented being deprived of the privilege of hiring and discharging workmen. To go further and remove from their jurisdiction employees in whom they were interested because of family or personal relations might cause additional resentment. The employment manager desired to secure, as far as possible, the cooperation and good-will of the individual foremen and believed that this could not be done unless the labor policies to be followed were fundamentally sound.

To improve existing conditions and to secure fair and impartial statements on the rating cards, he decided that employees should be distributed in such a manner as to minimize the claim of favoritism or discrimination. It was desirable to have as many members of a family as possible in the employment of the company, as this encouraged in their home life a common interest in the company's welfare. Personal friendships between foremen and employees were regarded, in the same manner, as being beneficial to the company.

To retain the advantages of having several members of a fam-

ily employed by the company and of having close friendships between the men, the employment manager decided that any one thereafter recommended for employment by relatives already working for the company should be interviewed and, if his qualifications were satisfactory, should be assigned to any job which might be open provided it was not in the same department with the person making the recommendation. To make this policy retroactive also, the employment manager analyzed the group of workers under the supervision of each foreman in the factory. When it was found that any of the employees were relatives of the foreman or had been acquainted with him socially before employment, they were transferred to jobs in divisions of the factory where they were unknown to the foreman and could perform approximately the type of work to which they were accustomed. It was explained to all the foremen that this move was necessary to prevent the possibility of future allegations on the part of the employees that there was favoritism or discrimination. It also was made clear that the employment manager intended to cooperate to the fullest extent with any foreman who found that an employee was inefficient or a trouble-maker.

One foreman resigned because of the transfer policy. A few others expressed temporary resentment. The plan, however, was accepted without protest by a majority of the employees, and the company continued it without change.

55. FAIRPORT INTERURBAN COMPANY¹

HOURS OF OFFICE WORK—SUMMER SCHEDULE. The office workers petitioned to have work stopped at 12 o'clock noon on Saturdays during the summer months instead of 1 p.m., with no reduction in pay.

ADJUSTMENTS TO MEET EMPLOYEES' CONVENIENCE. The company granted the petition with the stipulation that employees commence work 15 minutes earlier 4 days a week. This plan caused inconvenience, so that the company finally decided to return to the 8 o'clock starting hour, to shorten the lunch hour each day, and to stop work at 11:45 a. m. on Saturdays.

The Fairport Interurban Company had 10,000 employees, 600 of whom worked in the central office. They were classified as

¹Fictitious name used for purpose of disguise.

junior engineers, draftsmen, bookkeepers, clerks, stenographers, and operators of office appliances. They were paid weekly salaries and allowed two weeks' vacations with pay each year.

The committee that represented the office force placed before the president a request that their hours of work be changed. The regular office hours were from 8 a.m. to noon and from 1 p.m. to 5 p.m. on week days, and from 8 a.m. to 1 p.m. on Saturdays. The committee's petition was that work in the office be stopped at noon on Saturdays from June 15 to September 15 each year, so that the employees might have added time for recreation and travel over week-ends during the hot months.

In making the request, the employees assumed that no modification in salaries was to accompany the reduction in hours during the summer. It was stated that the granting of this request would not affect the remaining 9,400 workers who operated trolley cars, made repairs, or maintained service.

The president considered the suggestion. It was apparent that without modification in wages such a concession equaled an increase in wages of more than 2%, based on the number of hours actually worked, since the company was to secure only 44 hours of work instead of 45. At the wage levels in effect at that time, the loss each summer would be \$3,600.

The president decided that the company could not afford to absorb the cost of the reduction, and that adoption of the proposed plan would establish a precedent which later might be a disadvantage in setting hours of work. He believed that the office force was willing to make up the hour during the rest of the week. Such an arrangement would benefit the company, because the employees would know that their wishes had been given full consideration. A protest or claim from the outside employees that there was discrimination was unlikely, because the two kinds of work performed were entirely different. Hours for outside work were controlled of necessity by the traffic requirements.

It seemed advantageous to the company to lengthen the week-end period because the office force's attitude would be more favorable on Monday morning. The president, therefore, explained to the employees' committee why it was impossible to accept the plan as presented, but at the same time, he suggested a substitute plan, namely, that the office hours be changed so that work

started at 7:45 a.m. on Tuesday, Wednesday, Thursday, and Friday of each week during the stated period. The alternative made it possible for each employee to work the full number of hours and for the office to close at noon on Saturday, and there was no additional expense involved in this solution. In addition, the compromise avoided setting the undesirable precedent of paying for unproductive hours.

Before the plan was accepted, however, the committee asked the assistance of the immediate superiors of the office force in determining whether or not the schedule was likely to cause any undue hardship. Although it was found that some employees who lived outside the city would have to take much earlier trains than formerly, the difficulty was not deemed serious, since it affected only a small number. The president's suggestion, therefore, was approved by the employees' committee.

After the plan was put into effect, however, the inconvenience caused to commuters and their families was more serious than had been expected. The changed hours of rising and preparing breakfasts also caused antagonism among employees' families. This change of living habits was taken generally as a hardship.

The schedule was modified, therefore, to permit employees to arrive at 8 a.m., as formerly, but to take only 45 minutes for luncheon.

This allowed the employees to leave at 11:45 a.m. on Saturdays. There was some question, however, whether or not this allowance was adequate for luncheon. Since the offices of the company were in the central part of the city, it was decided that luncheons could be obtained within 45 minutes without difficulty.

56. MASON STREET RAILWAY COMPANY¹

WAGE AND SENIORITY STATUS OF REEMPLOYED MAN. A motorman who received, because of long service, the maximum wages allowed by the company for that type of work, resigned and later was reemployed. The union of which the motorman was a member claimed that he should be paid again at the maximum rate but agreed that he should lose his seniority privileges. The company decided to allow him only a beginner's wages, since otherwise men might change employment frequently for inadequate reasons.

¹Fictitious name used for purpose of disguise.

William Pelley was employed by the Mason Street Railway Company for 10 years as a motorman. At the end of that time he resigned voluntarily from the company for the purpose of working elsewhere. Four months later he requested that the company reemploy him, as he was not satisfied with the work he had undertaken. His request was granted, and he was placed in the same classification as new employees. He received consequently the minimum rate of pay and the lowest place on the seniority lists. A union committee submitted a claim that Pelley should be allowed the rate of pay which he had received immediately prior to his resignation.

All the employees of the company belonged to the Amalgamated Association of Electric and Street Railway Employees. The company had a written agreement with the union, in which were the following sections:

Section 6. All conductors or motormen shall be given work according to their continuous length of time in the service of the company. Any conductor or motorman desiring to choose the same may do so in accordance with his seniority. Choice of runs shall be given upon any and all changes.

Section 13. Any conductor or motorman promoted to starter, inspector, or foreman, or other official position shall be given 12 months to try the same, and if he does not return to his car in the above stated time, he shall lose his rating.

Section 16. * * * * * when a man is transferred from one car house, shop, or power house to another he shall retain his pay rating but start at the foot of seniority rating * * *.

The rates of wages for motormen and conductors during the life of this agreement are as follows:

Period of Employment	Cents per Hour
First six months	27
Second six months	27½
Second year	28½
Third year	29½
Fourth year	30½
Fifth year	31½
Sixth year and thereafter	32½

There was nothing elsewhere in the agreement to regulate the action of the company in regard to cases similar to that of Pelley.

The union committee stated that it was unfair to deprive a man of his former pay rating as well as his seniority privileges. These were important to the employees, who were allowed to choose the kind of work and the routings which they preferred in accordance with their seniority ranking.

The committee agreed that Pelley should lose his seniority privileges, but contended that his absence for four months had not decreased his skill and ability as a motorman. He had received the maximum rate of pay during the four years previous to his resignation, and the committee cited that fact as proof of Pelley's worth to the company. The union members contended that the loss of seniority privileges was sufficient to deter men from leaving the company for inadequate reasons.

The claim of the union committee was brought before the general manager of the company. He perceived that a definite policy should be established to govern cases of this nature, since there was no written agreement with the union on this point and such a policy, when once established to the satisfaction of the company, would serve as a precedent in case the union wished at a later time to formulate a permanent agreement.

To the general manager it appeared that the use of the graduated wage scale was an important factor in retaining men in the employ of the company. Exceptions, if made, might induce employees to leave their occupations temporarily for the sake of variety as well as for the purpose of taking up work which permitted greater advancement. The company had no desire to prevent men from accepting situations which gave real promise of success. It did, however, wish to preclude changes caused by restlessness or slight dissatisfaction.

Because of the expense of training new men and the difficulty of maintaining discipline, a high rate of labor turnover was disadvantageous to the company. It seemed important, therefore, to promulgate a strict policy in regard to reemployment.

On the other hand, the company had an opportunity to secure the services of Pelley without the additional expenses involved in training a new man. If the union's request were rejected, that body might claim that the company was unwilling to pay fairly for value received. Such a precedent also was likely to prevent the return of employees resigning under like circumstances.

The general manager decided that it was to the advantage of the company and of the personnel to disallow the request. The company stated publicly that it would reemploy men who had resigned, only on the same basis that it employed new men.

57. BUCKEYE TRACTION COMPANY¹

REEMPLOYMENT LETTER. When a union motorman discharged by the Buckeye Traction Company for breach of discipline was reemployed, the company's letter of notification to the union contained the word "reinstatement" instead of "reemployment."

UNION CLAIM LEGALLY ENFORCEABLE. According to an agreement between the company and union, reinstatement carried the privilege of back pay for the time lost. The union claimed the arrears for the man and the company decided to pay them, since the letter was worded in error and the union demand seemed to be legally enforceable.

(1923)

All the motormen and conductors of the Buckeye Traction Company were members of a local union. One of the motormen, John Scarry, was discharged on January 5, 1923, on the complaint of a car barn foreman. Three weeks later, the grievance committee of the local union requested the general manager of the company to reconsider the discharge of Scarry. The request came before the general manager after it had gone through the preliminary steps as described in the following section of the agreement in effect between the company and the union:

Section 5. When any conductor or motorman has been suspended or discharged and the union feels, after a careful investigation on its part, that an injustice has been done him, it shall have the right to take the case up first with the division superintendent and if it cannot reach a satisfactory adjustment with the superintendent, it shall have the right to appeal the case to the general superintendent. If it cannot reach a satisfactory adjustment with the general superintendent, it shall have the right to appeal the case successively to the general manager, and to arbitration, and if it is determined that such employee was unjustly suspended or discharged, he shall be reinstated in his former position and paid for all time lost.

During the preliminary discussion that had been held, the division superintendent and the general superintendent had agreed

¹ Fictitious name used for purpose of disguise.

that Scarry had been discharged for good reason, and they therefore refused to alter the decision.

The general manager, after several hearings of the union committee and the general and division superintendents, decided that Scarry's discharge was justified. His decision was contained in a memorandum written to the president of the local union on February 10 in which the general manager stated:

I want to assure you that I have carefully considered Mr. Scarry's case from all angles and under all circumstances. I feel that Scarry has not made out such a case as would warrant me in reversing the general superintendent's ruling.

On February 20, Scarry called on the general manager in the latter's office. The general manager told him that the case had been settled and that his relations with the company had been severed completely. Scarry, however, obtained the privilege of telling his version of the facts and convinced the general manager of his willingness and desire to return to the company and render conscientious service. The general manager then decided that there were sufficiently extenuating circumstances to warrant the man's reemployment. This decision was in accordance with the original request of the union committeemen.

On February 21, the general manager called another conference with the union committee and the division and general superintendents. It was agreed that Scarry should be reemployed.

This finding was embodied in a written memorandum to the president of the local union in the following words:

As was agreed to at our meeting, I have just written to the general superintendent instructing him to arrange for the reinstatement of Scarry. After our meeting I had a further talk with Scarry and told him that I decided to reinstate him with the understanding that he would do his work in the proper manner and exercise the care required from a motorman.

On February 27, the union committee filed with the division superintendent a formal request that the company allow Scarry back wages from the day of his discharge, January 5, to the day of his reinstatement, February 21. The division superintendent refused to grant this request and referred it to the general superintendent, who also refused to grant it. Consequently, it was submitted to the general manager. He secured the advice of the company's legal department, which was that since the word

"reinstatement" had been used in the letter to the president of the local union, the company could be forced legally to grant the request.¹ The general manager did not expect the union to attempt to force payment of Scarry's back wages through the courts. If the claim was not granted, however, the company risked the loss of the advantage which it had gained by making a satisfactory adjustment. If the union members realized that their claim was legally sound, they could arouse antagonism against the company in the minds of all employees by claiming that the company refused to live up to the letter of its promise. Obviously the general manager had made an error in using the word "reinstatement" when he had intended to indicate only that Scarry would be given employment as a new man. If the company now refused to reemploy Scarry, it would be in a position of reversing its former decision merely to avoid the payment of back wages. The general manager decided that the claim of the union committee should be allowed without prejudice to Scarry's record. Instructions were issued to all officials of the company that in the future the matter of wages in reemployment should be stipulated definitely in all correspondence relating to actual reemployment.

58. NATIONAL ASSOCIATION OF WINDOW GLASS MANUFACTURERS
*et al. v. UNITED STATES*² 248 R 458

MANUFACTURERS' AGREEMENT WITH LABOR UNION. An agreement between an association of all the manufacturers of hand-blown window glass in the United States and the labor union representing all skilled labor, about 2,500 men, in that industry provided for employment of all workers in one group of plants for one period during a year and in the remaining plants for another period.

SHERMAN ACT—NON-RESTRAINT OF TRADE. Prices for window glass were

¹ Similarly, it had been decided that, as used in the by-laws of an insurance company providing for "reinstatement" of those whose policies were forfeited under specified conditions, the term did not imply "reinsurance," the granting or making of a new policy, a new contract of insurance; rather, it fairly implied placing the insured in respect and relation to the company, the policy, the whole contract of insurance, in the same condition that he occupied and sustained toward them next before the forfeiture was incurred. *Lovick v. Provident Life Association*, 110 N. C. 93, 97, 14 S. E. 506. Cf. 34 Cyclopaedia of Law and Procedure, 1035.

² Supreme Court of the United States, Argued Nov. 22-23, 1923. Decided December 10, 1923. 44 Sup. Ct. 148.

determined by manufacturers who used machine rather than hand processes. The court held that the agreement did not come within the Sherman Act as being in unreasonable restraint of trade.¹

(1923)

Mr. Justice HOLMES delivered the opinion of the court:

This is a proceeding brought by the United States under the Act of July 2, 1890,² to prevent an alleged violation of section 1³ which forbids combinations in restraint of trade among the states. The defendants are all the manufacturers of hand-blown window glass, with certain of their officers, and the National Window Glass Workers, a voluntary association, its officers and members, embracing all the labor to be had for this work in the United States. The defendants established a wage scale to be in effect from September 25, 1922, to January 27, 1923, and from January 29, 1923, to June 11, 1923; and the feature that is the object of the present attack is that this scale would be issued to one set of factories for the first period and to another for the second, but that no factory could get it for both, and without it they could not get labor and therefore must stop work. After a hearing a final decree was entered enjoining the defendants from carrying out the above or any similar agreements so far as they might limit and prescribe the time during which the defendant manufacturers should operate their factories for hand-blown window glass.⁴

This agreement does not concern sales or distribution, it is directed only to the way in which union labor, the only labor obtainable it is true, shall be employed in production. If such an agreement can be within the Sherman Act at least it is not necessarily so.⁵ To determine its legality requires a consideration of the particular facts.⁶

The dominant fact in this case is that in the last quarter of a century machines have been brought into use that dispense with the employment of the highly trained blowers and the trained gatherers needed for the hand-made glass and in that and other ways have enabled the factories using machines to produce window glass at half the cost of the hand-made. The price for the two kinds is the same. It has followed, of course, that the companies using machines fix the price, that they make much the greater part of the glass in the market, and probably, as was testified for the defendants, that the hand-makers are able to keep on only by the sufferance of the others and by working longer hours. The defendants say, and it is altogether likely, that the

¹Headnote by Bureau of Business Research.

²c. 647, Section 4 (26 Stat. 209 (Comp. St. Section 8823)).

³Comp. St. Section 8820.

⁴287 Fed. 228.

⁵*United Mine Workers of America v. Coronado Coal Co.*, 259 U. S. 344, 408, 42 Sup. Ct. 570, 66 L. Ed. 975.

⁶*Board of Trade of Chicago v. United States*, 246 U. S. 231, 238, 38 Sup. Ct. 242, 62 L. Ed. 683, Ann. Cas. 1918 D, 1207.

conditions thus brought about and the nature of the work have driven many laborers away and made it impossible to get new ones; for the work is very trying, requires considerable training, and is always liable to a reduction of wages if the machine industry lowers the price. The only chance for the hand-workers has been when and where they could get cheap fuel and therefore their tendency has been to follow the discoveries of natural gas. The defendants contend with a good deal of force that it is absurd to speak of their arrangements as possibly having any effect upon commerce among the states, when manufacturers of this kind obviously are not able to do more than struggle to survive a little longer before they disappear, as human effort always disappears when it is not needed to direct the force that can be got more cheaply from water or coal.

But that is not all of the defendants' case. There are not 2,500 men at present in the industry. The government says that this is the fault of the union; the defendants, with much greater probability, that it is the inevitable coming to pass. But wherever the fault, if there is any, that is the fact with which the defendants had to deal. There were not men enough to enable the factories to run continuously during the working season, leaving out the two or three summer months in which the heat makes it impossible to go on. To work under-manned costs the same in fuel and overhead expenses as to work fully manned, and therefore means a serious loss. On the other hand, the men are less well off with the uncertainties that such a situation brings. The purpose of the arrangement is to secure employment for all the men during the whole of the two seasons, thus to give all the labor available to the factories, and to divide it equally among them. From the view that we take we think it unnecessary to explain how the present system sprang from experience during the war when the government restricted production to one-half of what it had been and an accident was found to work well, or to do more than advert to the defendants' contention that with the means available the production is increased. It is enough that we see no combination in unreasonable restraint of trade in the arrangements made to meet the short supply of men.

Decree reversed.

Petition dismissed.

59. VAN ROON MILLS¹

NUMBER OF PATTERNS MANUFACTURED. In the spring of 1921, because continuation of the existent business depression was probable, the company's selling agent recommended preparation of 150 patterns of gingham, in place of the usual 84. The requested additional patterns would have increased production costs 2 cents per yard. Despite the force of a greater variety of patterns as a means of securing orders,

¹ Fictitious name used for purpose of disguise.

the company decided that that gain would be more than offset by the increase in costs.¹

(1921)

In the spring of 1921 the treasurer of the Van Roon Mills received a recommendation from the company's selling agent to increase the number of its gingham patterns during the fall. Continuance of the existing severe depression seemed probable, and the selling agent expected the wider variety of patterns to be an advantage in stimulating demand under the adverse circumstances which were anticipated.² The acceptance of this suggestion would have entailed increased labor cost per yard and also would have necessitated the purchase of equipment.

At that time the mill produced gingham in units, known as sets, of 10,000 yards each. There was at least one set to a pattern. This permitted 84 patterns to be manufactured on the 504 looms in the mill each season. The gingham produced by the Van Roon Mills was one of the best grades made in the United States. It was sold through a commission agent to wholesalers, cutters-up, and to about 1,500 retail stores. Patterns for the spring season, the period of greatest sales volume, had to be in the loom the first of September. Salesmen took the initial orders during the preceding May, June, and July. Although the selling agent usually stated tentative prices in advance, that rarely exceeded those finally placed on the goods, frequently the prices were not fixed definitely until September.

The line was shown first to the wholesalers and cutters-up and then to the retailers. While orders were being taken, a salesman often made a recommendation that a specific pattern be run, although the full 240 pieces had not been sold. In that instance the company relied upon him to secure orders for the full set on the pattern. The patterns which were found to be poor sellers were dropped September 1 and a suggestion was made to each purchaser who had ordered a pattern which was to be discontinued that, since the pattern was not likely to be in favor, it might be advisable for the customer to change his order to more popular patterns.

¹See also Weaver Manufacturing Company, p. 226; Sedona Toy Company, p. 228; Cook Collar Company, p. 231; Pendleton Saw Company, p. 235; Kendall Shoe Corporation, p. 238; Hollywood Typewriter Company, p. 240.

²For data available at that time, see Harvard Committee on Economic Research, *Review of Economic Statistics*, April, 1921, p. 83.

The selling agent had recommended that the mill increase its number of patterns by producing gingham sets of 5,000 yards each, since department stores as well as wholesalers desired a wide variety from which to make their selections. The salesmen believed that a line of at least 150 patterns was necessary. Many buyers, too, particularly in department stores, purchased one or two pieces of 40 yards each of all patterns in a line in order to have variety and also to be sure of having popular patterns when the preference of consumers was manifested. An extensive line, furthermore, added to the reputation of the mill.

The Van Roon Mills ordered gingham into manufacture in sets. There were usually 10,000 yards to a set; that number seemed most economical and best adapted to the mill's facilities. Greater expense per yard was incurred when the length of the set was decreased. After the threads were spun, it was necessary to determine how many threads of each color were required in the width of the cloth. A 32-inch gingham was made up of approximately 2,500 threads or ends in width. The length of these threads determined the length of a set for a pattern. If five colors of warp yarn were required for the pattern, five separate beams of yarn were made up of a requisite number of threads, each lot being wound on a steel cylinder. For a typical gingham pattern, one beam contained 500 blue threads, one beam 400 red, one beam 600 green, one beam 700 bleached, and one beam 300 black threads. In making each beam, the waste was approximately one yard of warp yarn. This quantity of waste was the same whether a set was only 1,000 yards long or 10,000 yards. Since time was lost in starting and finishing a beam whether it was to be a long or a short one, long beams saved time.

The yarn or threads on these beams next went through the dyeing process, which was generally one of the most expensive processes in the mill. Almost the same quantity of dye liquid was required to run a short set as to run a long one, and the time spent in dyeing each beam was about the same whether the beam was long or short.

After being dyed, the yarn was delivered in rope form to the beaming room where each of the five colors was put on a separate beam again. The stopping and starting of the beam required approximately equal periods of time for a short or a long length. The yarn from all five beams then was wound on one beam in the

dressing department. The five beams were placed one behind another. The threads of all five were combined into one sheet 54 inches wide and were passed through a dressing solution in the slasher which gave them strength to stand the strain and chafing in weaving. After immersion the yarn was drawn over a dyeing cylinder and through a harness or comb which spaced the threads of each color to make the pattern, and then was wound on a beam which went into the loom. This process required about $2\frac{1}{2}$ hours for setting up the beams and running the ends of the thread through the harness regardless of whether the set was long or short. A 10,000-yard set made 6 whole loom beams, each beam containing about 1,666 yards of yarn which, when wound, made 1,600 yards of cloth or 40 pieces each 40 yards long. A 10,000-yard set thus produced 240 pieces during a season on 6 looms.

In addition to extra machinery and time spent in this process for making short sets, there also were losses in production and waste in the weaving department. The production time in that department was about 16 weeks. One loom during this period wove one loom beam or 1,600 yards, thus, if the mill ran one loom beam of each pattern on 500 looms, it produced 500 different patterns. If, however, it ran 10,000-yard sets, 6 looms were required for each set and the number of patterns produced during a season was 84. This was the situation at the Van Roon Mills when the company's selling agent made his recommendation.

One foreign manufacturer was able to sell gingham in the United States at a large differential in price. His line had a high reputation for the variety and style of its patterns.

Although retail and wholesale buyers sought to protect themselves against fluctuations in demand from one pattern to another, by having a wide range of patterns in their lines, price also played an important part in the selection of ginghams. Retail merchants usually priced ginghams at 25 cents, 29 cents, 39 cents, 49 cents, 59 cents, and 69 cents, and purchased accordingly. If a manufacturer's price, for example, was set too high to allow a normal margin of profit when the gingham was sold at the retail price of 59 cents, a retailer customarily placed the selling price at 69 cents or bought a cheaper gingham from another manufacturer to be sold at 59 cents. The mill also was obliged to meet the competition of other domestic producers of high-grade gingham.

To put this recommendation of the selling agent into effect would increase the cost of the cloth 2 cents per yard if the minimum for a set were reduced to 5,000 yards, 2 cents more if it were changed to 2,500 yards, and an additional 2 cents if it were decreased to 1,250 yards. This extra cost would be caused partly by the loss in waste and by production expenses in the mill, and partly by increased fixed charges on new equipment. It was estimated that 12 slashers would be needed instead of the 8 then used, 40 warpers instead of 30, and 32 beams instead of 24. This machinery investment, together with additional vats required in the dye-house, was expected to amount to approximately \$40,000.

The plan also involved the added expense in designing and in providing samples for salesmen and customers if a greater number of patterns were to be made. Suggestions for patterns were made by the selling agent's designers. Sample patterns were designed in various color combinations and after approval by the mill the patterns were made up in the looms to be used as samples by the salesmen and wholesalers. Annually 12,000 yards of cloth were manufactured to incorporate designers' suggestions. This requirement necessarily would be increased to 24,000 yards if the number of patterns were doubled, with an additional cost of \$5,100 per year at current prices. The mill gave away about 22,000 yards of cloth annually as samples. Doubling the number of patterns would increase the quantity to 40,000 yards, at an extra expense of \$9,000 at the current prices.

An alternative plan was to increase the number of patterns by about 16 the first year, to make a total of 100. This could be accomplished by obtaining from the selling agent his selection of 32 patterns which were considered inferior to the remaining 68 that were to be run. Three looms then could be operated on each of the 32 patterns for the production of 120-piece sets. The remaining 408 looms normally could produce the 68 more popular patterns in 240-piece sets. The less popular patterns were to be run in 5,000-yard sets and repeated later in the season if their salability had been misjudged. The second year the number of patterns could be increased again to perhaps 110 and the run of 20 more of the less popular could be shortened. Selection of the patterns to be run in 120-piece sets was to be delayed until sales could be estimated as accurately as possible.

The adoption of the latter plan would have lessened the risk of large inventories since the least popular patterns were to be manufactured sparingly. It also would have permitted the addition of equipment in instalments without the risk of interrupted production. The additional cost of short-run patterns would have been prorated to other patterns.

The treasurer of the Van Roon Mills, however, decided not to increase the number of patterns. He believed that the salesmen were prone to exaggerate the force of the demand for an extensive variety of patterns, or to use the lack of numerous patterns as an excuse for not making sales. He believed, moreover, that although patterns and style were important considerations to retail consumers, nevertheless, the purchases of retailers and wholesalers also were affected by price. The increase even of 2 cents a yard above the wholesale price of 42 cents, therefore, probably would give competitors an opportunity to establish themselves by underselling. The primary consideration, however, was the strength of the demand for gingham. During the years from 1916 through 1921, gingham, especially for the high grades, were in such demand that the Van Roon Mills had no difficulty in selling its entire output, with only 84 patterns. It seemed unnecessary, therefore, to increase the number, especially in view of the fact that an increase would impede production and make necessary the purchase of new equipment.

60. WEABER MANUFACTURING COMPANY¹

SIMPLIFICATION OF OUTPUT. In 1918, as a war measure, the company reduced from 10 to 5 the number of patterns in each grade of plated silverware that it manufactured. The resultant production economies and higher rate of stock-turn caused further standardization of patterns. Retailers were credited for returned stocks of discontinued patterns if they ordered replacement patterns to the amount of three times the credit. Because of the business depression in 1921, the competitors brought out many new patterns to stimulate sales. Retailers, and later the sales department, urged the company to diversify its styles, but it decided to maintain the restrictive policy because of the production economies realizable.²

¹Fictitious name used for purpose of disguise.

²See also Van Roon Mills, p. 221; Sedona Toy Company, p. 228; Cook Collar Company, p. 231; Pendleton Saw Company, p. 235; Kendall Shoe Corporation, p. 238; Hollywood Typewriter Company, p. 240.

The Weaber Manufacturing Company produced three general grades of plated knives, forks, and spoons which were sold under three brands over the company's name. Prior to 1918 it manufactured as many as ten patterns in a single grade. This number was recognized as excessive and was reduced, under the influence of the Conservation Division of the War Industries Board, to a maximum of five patterns in each grade. The finished stocks of the discontinued patterns were disposed of through department stores by special sales at reduced prices. With respect to jewelry stores, the company pursued a liberal policy on returned goods in order to prevent price-cutting.

The economies resulting from the reduction in the number of patterns were manifested in several branches of the business. Fewer dies were required in the factory; longer runs were made on each pattern; and fewer shifts from one pattern to another were necessary. Furthermore, smaller inventories were carried; less money was required for the drafting and designing departments; and salesmen were relieved of half the samples that they previously had carried.

These economies led the executives of the Weaber Manufacturing Company to develop a pattern policy based on studies of previous sales records. It was discovered that, as a rule, sales of a pattern maintained a satisfactory volume only for about 10 years. Since it manifestly was impossible to carry stocks of all patterns indefinitely, the management proposed to continue making only a restricted number of patterns and to push the sales of each one until a marked decrease in orders gave warning of a style change. It was recognized that once a pattern was put on the market it had to be continued long enough to allow the accumulation of complete sets by those unable to purchase an entire set in one year. Two or three patterns of each grade were considered a sufficient number for all but the largest retailers to carry in stock. When more patterns were carried, it was difficult for the retailers to maintain an adequate rate of stock-turn.

It was determined that sales of a pattern should be pushed until they declined to 30% of the largest annual volume previously sold of that pattern. When that point was reached, aggressive sales effort was to be discontinued on the pattern. Its

manufacture, however, was to be continued for another year, during which sales were expected to decline rapidly. At the end of that year, it was to be replaced with a new pattern and retailers were to be advised of the change. Any stocks of discontinued patterns were to be returned to the company and credited to the retailers' accounts at the prices originally billed, provided such returns were accompanied by orders for the new pattern amounting to three times the value of the returned goods. It was estimated that the returned stocks would not be excessive, and might be utilized for two or three years to supply retailers with odd articles desired by their customers in order to complete sets.

This policy was put into effect, but in 1920 and 1921 customers of the Weaber Manufacturing Company made urgent requests that the number of patterns of silverware be increased in order to stimulate sales. In 1922 the agitation for new patterns came from the sales department as well as from customers. During the period of depression, several competing manufacturers had introduced many new patterns in order to gain immediate results.

Notwithstanding competitors' practices and customers' demands, the Weaber Manufacturing Company continued to follow the program it had established and refused to increase the number of patterns. The company was confident that even though sales might diminish disproportionately during a depression because of the competition of companies which emphasized diversity of styles, this loss would be more than compensated by the economies eventually effected by following a restricted pattern program.

61. SEDONA TOY COMPANY¹

UNSUCCESSFUL INCREASE IN VARIETY OF PRODUCTS. The company manufactured expensive toys, a majority of which were proprietary, and sold them chiefly to department stores. In the 6 years ending in 1921, the varieties of toys had increased from 50 to 150. Buyers, however, spread their purchases over the increased line but allotted the same amounts as before to each manufacturer.

INCREASED SALES THROUGH REDUCED PRICES AND NUMBER OF STYLES. The

¹ Fictitious name used for purpose of disguise.

company decided in 1922 to attempt to increase its sales to each buyer by reducing the number of varieties and by passing on to the stores the resultant savings in production costs.¹

(1922)

During the 6 years prior to 1921, the Sedona Toy Company, which manufactured toys, had increased the number of items produced from approximately 50 to 150. The volume of sales, however, had not increased in the same proportion as the variety of toys, but had been spread over all the items in decreasing quantities for each. The management of the Sedona Toy Company, therefore, deliberated on the advisability of decreasing the number of kinds of toys to approximately 100 with concentration on the manufacture of those which were proprietary with the Sedona Toy Company and unlike the toys of other manufacturers. Sales of the company's proprietary items had constituted over one-half the total sales.

Investigation showed that toy buyers, the most important of whom held positions in the department stores of the large cities, divided their purchases among the different toy manufacturers, in accordance with the types of toys which those manufacturers sold, and made their selections from samples shown by a number of manufacturers. Even the smallest buyers, who also divided their purchases to some extent, and whose yearly purchases from the Sedona Toy Company averaged from \$250 to \$500 each, based the budgets for their purchases from the company largely on the bills of the previous year. Consequently, before the salesmen of the Sedona Toy Company showed their samples to the buyers, the latter had determined approximately the amount of money to be spent in purchases from the company for that year. On the basis of its past experience, therefore, the company seemed assured of a fixed part of the budget of each retailer's toy purchases, which ordinarily would increase or decrease, however, only in proportion to the sales in each store's toy department as a whole.

A decrease of 10% to 15% in the unit production cost could be attained with the same investment in tools and machinery if

¹See also Van Roon Mills, p. 221; Weaber Manufacturing Company, p. 226; Cook Collar Company, p. 231; Pendleton Saw Company, p. 235; Kendall Shoe Corporation, p. 238; Hollywood Typewriter Company, p. 240.

100 kinds of toys of about the same unit value were produced instead of a smaller number of each of 150 kinds with varying unit values. The company, consequently, could reduce selling prices in like proportion and enable the retailers to pass the reductions on to consumers and thus to increase sales of the Sedona Toy Company. Some retailers, however, might use this saving to offset losses, which were the result of breakage and the one season demand, in their toy departments. On the other hand, there were many retailers who would wish to secure a higher rate of stock-turn and therefore would convey the savings to consumers. A difference of 10% or 15% was sufficient to be noticeable in the selling price because the company's toys were relatively highly priced. If a toy formerly retailed at \$5 could be sold for \$4.50, it was believed that purchases of that product should increase. If this were true for 100 products, the Sedona Toy Company could expect to receive more than its former quotas of orders, without regard to the general growth of sales in the retailers' toy departments.

The limited number of articles, furthermore, should result in greater effectiveness of sales efforts, reduce the time per salesman's call, and make possible the perfection of the toys in which the company's leadership was recognized. Another advantage, moreover, was the ease of sales analysis.

Buyers preferred, however, to choose from a large variety of toys. Although the management of the Sedona Toy Company believed that 100 items allowed for sufficient variety, the company risked a loss of orders if the retailers' preferences were not determined accurately.

Because the Sedona Toy Company expected the stimulus of reduced prices to prevent retailers from limiting their purchases when offered fewer selections, it decided in 1922 to decrease the number of items and to reduce prices 10%. Sales to each retailer increased on the average by 10%. In 1923, only 75 varieties were manufactured. This resulted in another saving of about 10% in production costs, which was passed on to the retailer and had the effect of increasing sales 10% additional. The company then planned but 50 kinds of toys for 1924 and expected that the purchases of each retailer in that year would be increased still further.

62. COOK COLLAR COMPANY¹

MANUFACTURER'S WHOLESALE BRANCHES. The company produced 25 models of semi-soft collars, complete stocks of which were carried in the company's wholesale branches. Retailers already had stocked competing brands of collars.

STYLE APPEAL. It was the general practice among collar manufacturers, including this company, to introduce new styles each year and to concentrate advertising and selling efforts on the latest styles.

REDUCED NUMBER OF STYLES. The company decided to reduce the number of styles of its semi-soft collars from twenty-five to four.

PRODUCTION ECONOMIES—RATES OF STOCK-TURN. The company expected, through the reduction in the number of styles, to obtain production economies and also to make possible increased rates of stock-turn in wholesale and retail distribution.²

(1923)

After the introduction of semi-soft collars by other manufacturers, the Cook Collar Company, which produced stiff and soft collars and shirts, undertook the manufacture and distribution of the "Cook" semi-soft collar. All the company's products were sold directly to retailers by the company's salesmen from eight branches. These branches carried complete stocks and were located at the principal distributing centers throughout the United States.

At first, semi-soft "Cook" collars were produced in two grades of fabric, one grade to retail at 35 cents per collar, and the other at 50 cents. Additional styles and fabrics gradually were added, at the same prices, until there were 25 varieties. Although the collars were advertised nationally, the company was unable to secure wide distribution because its most important competitors, who originally had developed and advertised semi-soft collars, had established their brands among consumers. The competitors also had sold complete stocks of collars to a majority of the retailers, who consequently were reluctant to buy additional supplies.

Late in 1923 it was suggested that the company could compete

¹Fictitious name used for purpose of disguise.

²See also Van Roon Mills, p. 221; Weaber Manufacturing Company, p. 226; Sedona Toy Company, p. 228; Pendleton Saw Company, p. 235; Kendall Shoe Corporation, p. 238; Hollywood Typewriter Company, p. 240.

more effectively if it reduced the number of styles of semi-soft collars. The general practice among collar manufacturers, including the Cook Collar Company, however, was to introduce new styles each year and concentrate advertising and selling efforts on the latest models. One manufacturer regularly featured a new style for fall and spring each year. Usually the changed style name was assumed to be more important than the slight structural alteration which was made.

As a result of the suggestion to reduce the number of models, the Cook Collar Company analyzed the importance of the style factor in the sale of collars. The company's sales figures indicated that 10 styles comprised 75% of the total sales of semi-soft collars, and that two-thirds of these sales were of 4 of the 10 styles. Collars in these 4 styles sold for 35 cents each and were of a conservative design which always had been popular in stiff collars. Three of the styles varied from each other only in height; the fourth had longer points than the others. The sales of each of these 4 styles had been approximately equal. A study of one important retailer's total sales of all kinds of collars revealed that although a stock of over 90 styles was carried, the sales of 12 styles constituted about 80% of total sales.

The company was familiar with the experience of a hat manufacturer who had made a drastic reduction in the number of styles produced. It was pointed out also that one of the principal makers of men's clothing had sold the same design of suit for more than 18 years. The policies of both companies apparently had been successful. These facts caused the officers of the Cook Collar Company to doubt the value of style in collars as an appeal to the majority of consumers.

Since about half the sales of semi-soft collars were represented by four styles, it was proposed that production of the Cook Collar Company's semi-soft collars be limited to these four models, and that no temporary style changes be made. The designs should be varied, however, when real improvements in comfort or durability could be effected, or when permanent, well-developed style trends were observed.

The proposed reduction in number of styles was expected to be approved by retailers, and, therefore, to enable the company to increase the number of retail outlets. Manufacturers stimulated consumer demand for a new style by advertising; the salesmen

usually induced retailers to place orders for it. The company believed that although a retailer was able to sell the most recent style, his total sales of collars usually did not increase, because customers merely selected the new style in preference to older collars. The result was that retailers were stocked with an increasing variety of styles, but the demand for many of them was reduced by the introduction of later models.

Reduction in the number of styles might enable the company's salesmen, through assurance of a stable demand and elimination of unsalable styles, to induce additional retailers to stock the "Cook" semi-soft collars. The retailer's rate of stock-turn for semi-soft collars should increase; and the necessity for investment in a wide variety of styles of "Cook" collars would be removed.

Instead of emphasizing only the latest style, with resultant loss of the value of repetition, the company could advertise all four styles equally in order to stimulate demand for the retailer's complete stock of "Cook" semi-soft collars. Comfort and durability probably were stronger than style as appeals to consumers. The salesmen could emphasize the sale of all four styles, whereas previously they had attempted to sell chiefly the one or two latest styles.

The proposal also offered the advantage of economies in production and distribution. A reduction in the inventory of finished stock, both at the factories and at the branches, was possible, as well as a higher rate of stock-turn. Under existing conditions, a supply of each of the 25 styles was required, regardless of the individual rates of stock-turn.

The officers of the Cook Collar Company could not estimate exactly the production savings obtainable by the change in policy. Employees were expected, however, to become more proficient and to reduce waste by specializing in only four styles. Manufacturing processes could be standardized more completely than previously, when the company had not been able accurately to predict the demand for each style because of the uncertain effect of new styles. Demand for four styles would not be dependent on style factors; sales and production, consequently, could be planned with greater exactness than formerly. If sales of each style proved to be approximately constant, furthermore, it would be necessary to forecast only the total amount of sales.

An objection to the curtailment of styles was that the company might sacrifice future sales of designs for which demand already had been created. The company believed, however, that the requirements of all purchasers of semi-soft collars, except those who specified the latest style novelty, could be fulfilled satisfactorily by the four styles retained. Buyers of the "Cook" collars who had purchased varied styles, merely because they were available, probably would find among the four standard designs a diversification sufficient for all except the most extreme tastes. Correct height, rather than the shape of the opening, was deemed the more important factor from the point of view of most customers. Loss of sales, however, was inevitable in the case of consumers who insisted upon buying only the most recent or extreme styles of collars. Probably about 25% of the total sales of "Cook" collars were to customers of this type. To offset this loss was the advantage of distribution through a larger number of retailers.

An additional objection to the proposal was that style always had been the principal advertising appeal used by manufacturers. The company thought that competitors planned production with the belief that a new style stimulated demand among consumers, and that consumers frequently bought new styles and discarded other collars which were not worn out. The Cook Collar Company's salesmen, who had been able in the past to induce retailers to place orders for a recently introduced style, even though the retailers' total stocks were adequate, no longer could use a new style as a sales argument.

No other collar manufacturer had attempted to standardize styles. If the plan were adopted and proved unsuccessful, the good-will of the company among retailers and the popularity of the brand name among consumers would be impaired.

Since the officers of the company believed, however, that a reduction in the number of styles would benefit both the retailers and the company, they decided to limit the number of styles of semi-soft collars to the four suggested. Stocks of discontinued models were to be applied, until exhausted, to any orders for them that might be received.

The company could not estimate accurately how long the sale of discontinued styles would persist; the period during which such sales were made would allow retailers to adjust their stocks and purchases to the new policy.

63. PENDLETON SAW COMPANY¹

SIMPLIFICATION OF PRODUCT. As a result of a sales analysis, the company learned that continued production of many of the individual sizes of its saws was inadvisable.

REDUCED MANUFACTURING COSTS—RELEASE OF WORKING CAPITAL. A reduction in the number of sizes of the product was expected to effect savings in manufacturing costs and also to release working capital previously tied up in slow-moving merchandise.

STANDARDIZATION OF OUTPUT—COMPETITORS' AGREEMENT ON STANDARD SIZES. In agreement with competing manufacturers, the company decided to produce only a reduced number of saws of standard sizes.²

(1924)

The Pendleton Saw Company manufactured branded saws, knives, files, and hack saws of high quality. Its products, which were advertised nationally, were used throughout the United States and Canada. After the company's establishment in 1854, its expansion had been continuous.

In 1918, because of the World War, the government authorities in Washington, in conjunction with manufacturers of articles similar to the Pendleton Saw Company's products, made studies for the purpose of eliminating non-essential sizes. These studies were nearly complete at the time of the armistice, November 11, 1918, but as the necessity of reduction then no longer existed from the standpoint of the government, the tabulation was discontinued. To determine whether savings could be effected by a reduction in the number of sizes, the Pendleton Saw Company, in 1922, made another sales analysis for each size of the hand saws which the company manufactured.

At that time, the company controlled three factories and a steel mill which manufactured the bulk of the raw steel used by the company. The company's executive offices and its original factory were located in a small manufacturing town near Chicago, Illinois. Distribution of the products was effected through 12 sales branches in the principal cities of the United States and Canada. Each sales branch had a definite territory which was

¹ Fictitious name used for purpose of disguise.

² See also Van Roon Mills, p. 221; Weaver Manufacturing Company, p. 226; Sedona Toy Company, p. 228; Cook Collar Company, p. 231; Kendall Shoe Corporation, p. 238; Hollywood Typewriter Company, p. 240.

covered by the salesmen from that branch. In order to enable the executive offices to exercise proper control over the supply of finished product kept on hand at different branches, branch managers submitted annual inventory figures and quarterly stock reports showing the quantities of finished products on hand at the end of each quarter. Requisitions for stock in excess of \$300 required the approval of the treasurer of the company. With that exception, each branch manager had complete authority in his territory and was held responsible for profitable management.

The Pendleton Saw Company kept supplies of standard sizes on hand at the factories. Orders for articles of standard size usually were filled promptly. Delivery on orders for non-standard sizes, however, in most instances required six to eight weeks from receipt of order. Because of greater difficulty entailed in producing articles under non-standard specifications, moreover, the manufacturing cost of such articles was greater than that of the standard articles.

Since the officers were convinced that substantial savings could be effected by a reduction in the number of sizes, the Pendleton Saw Company made a careful tabulation of the sizes of all types of hand saws manufactured by the company. Figures showed that customers' insistent demands for desired sizes gradually had led the company to manufacture 513 different sizes of hand saws. Of this number, sales in 1922 were made as follows:

- 347 sizes—less than 3 dozen sold
- 75 sizes—over 3 dozen and less than 10 dozen sold
- 91 sizes—over 10 dozen sold

After a detailed study of the sales figures for the hand saws of various sizes, the Pendleton Saw Company concluded that approximately one-third of the sizes would prove ample for all needs of the trade.

Branch managers, salesmen, wholesalers, and retailers undoubtedly would oppose any changes which might lessen future profits by decreasing sales to customers who were convinced that their needs were filled most satisfactorily by the sizes usually ordered. On the other hand, there appeared to be no sound reason for the manufacture of over one-third the sizes of hand saws. For example, there was so little difference between a saw with six points to the inch and one with seven points that they

could be used interchangeably under nearly every condition in the trade. If all important manufacturers of saws would agree to produce the same standard sizes, customers would become accustomed to asking for only those sizes, and all wholesalers and retailers would be in the same position in regard to the probable loss of customers.

In order that sufficient standard sizes for all requirements of the trade should be manufactured, the Pendleton Saw Company decided that concerted action on the part of the important manufacturers was necessary. The major manufacturers of hand saws, accordingly, were approached. A chart was prepared showing the number of sizes produced by each of these companies. Representatives from each company then met to discuss the practicability of the proposed changes. A majority of the manufacturers had had the same experience as the Pendleton Saw Company. All the representatives agreed that if the number of sizes of hand saws were decreased, substantial savings in factory costs could be made. It was impossible to determine definitely the amount of savings which would result from a reduction in the number of sizes. The saving in production costs, however, was estimated to be from 10% to 20%, according to the number of sizes eliminated.

One important advantage in a reduction in the number of sizes was the fact that elimination of slowly selling articles would release working capital theretofore tied up in inventory in wholesale and retail firms as well as in the factories and sales branches of manufacturers. For that reason, the majority of wholesalers and retailers probably would not hesitate to accept the reduction in sizes.

Because all manufacturers did not produce the same sizes of saws, it was difficult to fix definite standard sizes. Finally, however, the committee of manufacturers adopted 177 sizes of hand saws as best meeting the requirements of the trade. Approximately 64% of the number of sizes formerly manufactured thus were eliminated.

The Pendleton Saw Company also adopted the 177 standard sizes. In 1924 the plan had proved successful and the company was attempting to reduce the number of sizes of circular saws, files, and hack-saws, through further study of the production and sales factors involved.

64. KENDALL SHOE CORPORATION¹

DECLINE OF SALES AND BUSINESS DEPRESSION. Prior to 1920 the company manufactured only conservative styles of men's shoes. The business depression which began that spring caused stagnation in the company's sales and in the shoe industry. Retailers faced severe inventory losses, ceased buying, and returned stocks for which they had not paid.

STYLE CHANGES—CONSUMER DEMAND. The company, therefore, decided to introduce radical style changes involving only minor capital expenditures, in an effort to stimulate consumer demand. A gradual increase of orders followed.²

(1920)

The Kendall Shoe Corporation manufactured conservative styles of men's shoes, which it sold under its own brand to retailers. Following the business crisis in the summer of 1920, a period of stagnation occurred in the shoe industry, as in many others. Demand for the company's products ceased. Shoe styles had not been changed for several years, and since new models might stimulate sales, the company had to decide whether it should develop and attempt to sell new styles of shoes, or whether it should attempt only to dispose of its surplus stocks of returned merchandise.

Previous to May, 1920, factories had been operating at full capacity, and stocks of finished product had been sold readily to retailers. Retail shoe dealers, however, had accumulated excess stocks because the steadily increasing prices had led them to believe that the more stock they had, the more profit they were assured. Each time an inventory was taken, the merchandise had a higher value than before. The few prevailing styles were those which had been sold during the war when the government had requested shoe manufacturers to simplify styles as far as possible. After the war, the shoe manufacturers had sold their products so easily that it had not been necessary to develop new styles.

When prices declined, retailers were stocked with high-price merchandise which they were forced to sell much below cost. Inasmuch as many consumers were of the opinion that prices

¹ Fictitious name used for purpose of disguise.

² See also Van Roon Mills, p. 221; Weaver Manufacturing Company, p. 226; Sedona Toy Company, p. 228; Cook Collar Company, p. 231; Pendleton Saw Company, p. 235; Hollywood Typewriter Company, p. 240.

must return to pre-war levels, they refrained from purchasing beyond their needs.

As a result of the depression, shoe factories were without orders or were running on short time. Many factories were closed. Unemployment was the general condition in manufacturing communities, and shoe companies were sustaining constantly increasing losses from depreciation and fixed charges. The manufacturers were burdened with high-price inventories and surplus stocks, for which there was almost no demand. Since retailers were overstocked to such an extent that they would not purchase merchandise at any price, several manufacturers opened retail stores in large cities, where the shoes were offered to the public at low prices, regardless of cost.

The attitude of retailers toward changes in the existing styles was uncertain. They were likely to take the position that the new styles, by attracting all the demand, might lessen the value of the old stocks and thus cause additional financial difficulties and failures among retailers.

Most of the retailers were so overstocked that it might be several months before the surplus goods were absorbed. The management of the Kendall Shoe Corporation was convinced that the prevailing shoe styles no longer appealed to consumers. A radical departure from existing styles, it was thought, might arouse the interest of buyers and stimulate sales. The old stock then could be sold gradually to customers who preferred conservative styles. In many cases, customers attracted primarily by the display of new styles might decide to purchase the conservative models offered at reduced prices. The demand was unlikely to center on the new lines to the exclusion of the old stock.

Another potential advantage was that the new models could be sold at a profit both by the company and by the retailers, since the selling appeal was to be style and not price. Instead of making replacement purchases only, it was expected that consumers were likely to buy the new styles in order to keep up to date. Although the prices at which it was possible to manufacture and distribute the new models were higher than the reduced prices on existing styles, they were not exorbitant. The profits derived from sales of the new merchandise were expected gradually to offset the losses taken on the old stocks.

The proposed changes did not involve important increases in costs. Many variations of shoes with fancy wing tips, perforations, and stitching could be produced with only a few minor capital expenditures required to provide several new attachments for the machines.

Until a demand was developed, the company expected retailers to purchase only small quantities of the new styles. The Kendall Shoe Corporation proposed to send out its salesmen with samples to secure orders from as many retailers as possible. It realized the importance of prompt and frequent delivery of orders until the trade had revived.

The Kendall Shoe Corporation consequently decided to develop new styles of shoes in an attempt to hasten the revival of the trade. If the plan succeeded in stimulating sales, the management determined to change the styles of its shoes at frequent intervals until after the period of depression.

In accordance with the decision, new styles embodying radical changes were developed in the company's designing department. The salesmen were sent out with these samples and were able to secure a few small orders from retailers who recognized the advantages in the experiment and were willing to give it a trial. Consumers began to buy the novel styles, and a gradually increasing demand for the new models was developed.

65. HOLLYWOOD TYPEWRITER COMPANY¹

SPECIAL FINISH ON PRODUCTS FOR FOREIGN MARKETS. In 1920 the company's agent at Vienna urged that machines for sale in Austria be finished in conspicuous colors similar to those placed on competing German models. The company decided not to adopt the suggestion, since color decorations involved added costs and were only superficial in sales appeal, whereas German competition was based on low price, exchange conditions, and preferential tariffs.²

(1920)

The Hollywood Typewriter Company's Vienna agent reported in 1920 that competitors were decorating typewriters with gold

¹ Fictitious name used for purpose of disguise.

² See also Van Roon Mills, p. 221; Weaver Manufacturing Company, p. 226; Sedona Toy Company, p. 228; Cook Collar Company, p. 231; Pendleton Saw Company, p. 235; Kendall Shoe Corporation, p. 238.

and red bands. There had been a reaction against somber war-time colors and there seemed to be a demand for brighter designs. Although the Hollywood machine bore on the front in gold color the names and seals of the company and its agent in Vienna, Austrian customers apparently desired more decoration. The agent stated that the day he mailed his report, two customers had refused to buy the company's typewriters, because they preferred, as they stated, the bright colors on German machines. He urged the company to finish machines for Austria with broad red and gold stripes.

Prior to 1914 the Hollywood Typewriter Company had had agencies in Austria, Russia, Greece, Italy, France, and England. It also had exported machines to Cuba, Porto Rico, Mexico, and Central America, and a few to Brazil, Argentina, and Chile. These machines had red, blue, and gold decorations and the style of alphabet used in the country to which they were sent. Foreign customers apparently had been satisfied with the bright design, and, under the stimulus of extensive advertising, sales had increased rapidly up to 1914.

The outbreak of the World War had curtailed sales to Europe, but the increased demand in domestic markets had compensated for this loss. After the United States had entered the World War in 1917, a movement was started to standardize products and reduce unnecessary expenditures to a minimum. The Hollywood Typewriter Company, therefore, had discontinued its red, blue, and gold decorations.

Latin America was the principal foreign market in which Hollywood typewriters were sold during the World War period. Salesmen in South America and Mexico had denounced the change, and had recalled the stories of Latin Americans' partiality for bright colors; how once a line of kitchen stoves could not be distributed in Mexico until they were painted red or yellow; how playing cards could not be marketed in Venezuela until they had been stamped on the backs with red circles; and how the gayest Paris gowns were sold easily in Argentina. To the surprise of the salesmen and a few of the company's officials, sales in Latin America had not declined after the discontinuance of the bright-color decorations. The company had received favorable comments, furthermore, from South American customers. They approved the change because the machines were less conspicuous.

The company's sales to Central Europe in 1920 were sufficient to warrant the manufacturing adjustments necessary to decorate the machine extensively, if this procedure were advisable. The company was not willing to make this change, however, unless increased sales would result. Since German competition was based primarily on price, unfavorable exchange rates, and preferential tariffs in favor of German manufacturers¹, the company wished to avoid any unnecessary cost. The executives were convinced, furthermore, that the decoration made only a superficial appeal, and that sales agents used the lack of it as an excuse for insufficient sales.

The company, therefore, decided not to grant the Vienna agent's request. In the following three years, the Hollywood Typewriter Company increased its portion of the total number of typewriters imported into Austria and Czechoslovakia.

66. HARRISON STEEL CORPORATION²

CANCELANATION OF TONNAGE CONTRACT. A customer of the Harrison Steel Corporation had placed a contract for 3,000 tons of structural steel shapes, to be delivered in 6 equal monthly shipments. By August, 1920, two shipments had been made and a third was in process of manufacture. Because of the business depression, the customer then requested cancelation of the remainder of the order. It had been the custom in the steel trade to permit cancelations if requested before manufacturing specifications had been given by customers. The Harrison Steel Corporation decided to permit the cancelation of this customer's contract.³
(1920)

On August 9, 1920, the Harrison Steel Corporation received a request from the Tyler Warehousing Company for the cancelation of the unfilled portion of a sales contract, dated May 10, 1920, which called for the delivery to the Tyler Warehousing Company of 500 tons of structural shapes monthly for a period of six months, specifications for the shapes to be given by the purchaser each month in anticipation of delivery six weeks later. Two of these monthly instalments had been shipped by the Harrison

¹Kelly's *Customs Tariffs of the World*, 1921, p. 237.

²Fictitious name used for purpose of disguise.

³See also Randolph Shoe & Leather Company, p. 244; American Sugar Refining Company, p. 248.

Steel Corporation and accepted by the Tyler Warehousing Company. The third instalment was in process of manufacture under the specifications. The Tyler Warehousing Company was ready to receive this third instalment, but requested that the remaining three shipments be canceled because of lack of orders on the company's books to take up the steel if manufactured and shipped.

In August, 1920, the steel industry was just beginning to experience the effects of the depression which already had become evident in other industries. Because of the steady demand for steel and a continual rise in prices there had been almost no requests for cancelations from customers during the preceding 18 months. In fact, customers who ordered on the basis of tonnage contracts to resell had become accustomed to place orders with several steel manufacturers for perhaps three times the quantity of steel that the customers expected to need, in order to obtain sufficiently prompt deliveries from some source to meet resale requirements.

The Tyler Warehousing Company carried standard sizes of structural shapes in its warehouses in order to give prompt delivery to building contractors and manufacturers who needed small shipments without delay. Its purchases from the Harrison Steel Corporation normally averaged 300 tons per month. It was deemed a satisfactory customer by the corporation. The Harrison Steel Corporation, however, realized that final decision must be made not merely with reference to this individual request, but with the expectation that similar cancelations would be sought often during the next few months; hence a definite policy had to be established.

It had been the custom in the industry for several years to grant cancelations of these tonnage contracts in whole or in part almost without discussion, provided cancelation was requested before specifications for the steel had been given by the purchaser. The basis for this custom was that the manufacturer could not start to make the steel until definite specifications, as to size and quality of steel, and other necessary instructions had been given. The full amount of the contract was carried on the books of the manufacturer, however, as an unfulfilled order, and general production plans as to size of labor force, expansion, and general overhead expense were determined primarily on the basis of the

quantity of the unfulfilled orders on the company's books. Cancellation of these contracts, therefore, affected the manufacturer.

The tonnage contract was filled out on a uniform blank and was legally binding on both parties. The contract form used by the Harrison Steel Corporation included the following clauses:

Specifications shall be furnished to seller by buyer in substantially equal monthly quantities beginning _____ and ending _____. A buyer's failure to furnish specifications as aforesaid may at the seller's option and without notice to the buyer be treated and considered as a refusal to accept and receive the unspecified portion of the goods In the event of inevitable delay due to fires, strikes, or other causes beyond the control of the seller, the buyer may, subject to previously obtaining the consent of the seller, cancel the portion of the goods not manufactured or in process of manufacture at the time his request to cancel reaches the works.

If the Harrison Steel Corporation insisted upon the Tyler Company's fulfilling its part of the contract, the Harrison Steel Corporation would be adopting a policy which ran counter to that followed in the past by the industry and the probable future policy of the other independent steel companies.

The corporation, therefore, permitted the cancellation requested by the Tyler Warehousing Company, and decided that although such cancellations of tonnage contracts were detrimental to the industry, refusal to allow them should be made by a group of independents acting together rather than by one company.

67. RANDOLPH SHOE & LEATHER COMPANY¹

CUSTOMERS' REPUDIATION OF SALES CONTRACTS. Men's medium-price shoes were sold under the company's brand directly to retail shoe stores. In May, 1920, prices declined; orders which had been repudiated affected 90% of the spring sales.

LEGAL ENFORCEMENT OF SALES CONTRACTS. The company decided to prosecute a few of the flagrant offenders as examples to the others. In the spring of 1923, orders again reached a high point, but when prices declined in the summer, the company had no difficulty from repudiations.²

(1920)

¹Fictitious name used for purpose of disguise.

²See also Harrison Steel Corporation, p. 242; American Sugar Refining Company, p. 248.

The Randolph Shoe & Leather Company manufactured men's medium-price shoes which it distributed under its own brand to retail shoe stores throughout the United States. The orders secured by salesmen early in 1920 exceeded those of any preceding season in value and amount. For about a year prior to May, 1920, shoe factories in all sections of the country had been operating at high rates of production and later it appeared that there had been a consequent accumulation of stock in retail stores. Shoe retailers had experienced several profitable seasons and apparently had permitted a slow accumulation of stocks to take place.

In the spring of 1920, prices of both raw materials and finished shoes were unusually high. The Randolph Shoe & Leather Company had foreseen for several months that a drastic decline in retail and wholesale prices was probable. The salesmen of the company were instructed to take orders only for immediate requirements and not to accept orders for future delivery. Customers were advised by the company to reduce their orders and also their stocks of shoes. The salesmen discovered, however, that retailers were confident of continued prosperity and purchased in as large quantities as their credit standing would permit. The salesmen were influenced by the prevailing optimism among retailers, and did not follow the instructions of the company's executives. Retailers purchased in excessive quantities, even after the first signs of the approaching crisis appeared; they refused to be guided by the advice of the company.

In May, 1920, there were definite indications of a general business depression, and shoe retailers discovered that consumers were unwilling to purchase shoes at the prevailing high prices. Shoe retailers were forced to adopt many expedients, in order to secure enough cash to pay their maturing bills. Standard models were offered at reduced prices; old styles and odd lots were put on special sale at prices far below their original cost. On account of the severity of the depression, however, it proved to be almost impossible to stimulate the sales of shoes even at the reduced prices.

Under these conditions retailers requested permission to cancel orders at a rate which indicated that fully 90% of the company's total sales for the season would be affected. In numerous instances, retailers who had large stocks of shoes which they were

unable to sell met maturing obligations by returning the merchandise instead of by payment for it. The reasons usually given were that the shoes had arrived too late or that they did not fulfil the specifications with respect to color, style, and quantity. If the company questioned the validity of these reasons, the retailers stated that they no longer wanted the shoes. Since the company was receiving repudiations of unfilled orders and returns of rejected shoes, the president was urged by the junior executives to adopt a policy of forcing customers by lawsuits to honor their contracts.

Because of the company's conservative financial policy, reserves had been set aside in the preceding periods of prosperity to offset losses which were likely to occur during a business depression. The company, therefore, was in a position to withstand the financial strain caused by the wide-spread repudiation of retailers' contracts.

The repudiation of orders had a demoralizing effect, however, upon the executives in charge of purchasing, planning, production, and sales. They were discouraged, because nearly all the orders which had been secured and filled had been repudiated by customers with inadequate excuses or no excuses at all. If the company permitted this condition to continue without definite attempts to correct it, the morale of the entire organization was likely to be harmed. To these executives it seemed obvious that the company should have recourse to the law courts to secure redress.

The president believed that the company had just grounds for taking legal action against its customers, and he was confident of favorable verdicts in all cases which might be brought to trial. He knew from experience, however, that satisfactory business relations could not be built on legal proceedings. The expense and time involved in conducting lawsuits also had to be considered. It was necessary to establish specific losses in each case before a suit for recovery could be instituted. The returned shoes, in other words, had to be sold and the difference between the actual selling price and the original price had to be proved. Analysis of the company's accounts showed that nearly all the repudiations had been received from customers whose individual orders ranged from \$500 to \$1,500 each. Because of the small amounts involved in individual cases, the cost of the lawsuits

was likely to be an excessive proportion of the amount recovered.

In formulating his opinion the president also weighed the fact that, if no prosecutions were undertaken by the company, customers might think that they could repudiate subsequent orders with impunity. This assumption would cause them to place excessive orders at a later time, and thus encounter the same conditions of overexpansion. Customers might consider lawsuits, however, an unfair means of securing an advantage when conditions uniformly made it difficult or impossible for them to fulfil their obligations. The majority of the company's customers were sure to look upon court proceedings undertaken during a period of wide-spread depression differently than upon similar proceedings instituted when business conditions were normal. An antagonistic attitude among retailers would be detrimental to the company's future sales.

The president concluded that suits should be instigated against a small number of the most flagrant offenders. In this way the company should secure at minimum expense the benefit of test cases useful in pointing out its legal rights under these circumstances. A few instances of prosecution were not expected to affect adversely the company's good-will among the majority of its customers, but rather to show them the need for more cautious purchasing. Such action also would demonstrate to the junior executives the high cost of legal proceedings in relation to the benefits secured.

Following this decision, the company sued three customers for losses caused by repudiations of their orders, and in each case it eventually secured a favorable verdict. One suit, which was appealed, was for \$700, and the legal cost was approximately \$1,600. Another suit, for a loss of \$400, involved an expense of \$900. Each suit was subjected to many delays, and several executives were required to make three or four trips to the courts to testify. By the time these cases were settled the junior executives had the satisfaction of knowing that the company was in the right, but that it was useless to have recourse to the law courts for small losses. They were encouraged by the favorable verdicts, but had had enough of court proceedings to realize that the losses resulting from repudiations would have to be borne by the company. The president concluded, furthermore, that the outcome of the suits had had the desired effect upon customers. Early in 1923,

when orders for the fall season again reached a high point, each customer was notified that the company did not want any orders which the customer did not intend to accept. In previous years numerous shoe retailers had repudiated orders whenever the price of leather declined even slightly. In the summer of 1923, however, although the price of leather had dropped materially below the price in February of that year, the company had no repudiations of contracts by customers.

68. AMERICAN SUGAR REFINING COMPANY

CUSTOMERS' REPUDIATION OF SALES CONTRACTS. In May, 1920, at the insistent demands of customers, the company, contrary to its policy of selling only for 30 days' delivery, accepted orders for refined sugar to be delivered from 1 to 7 months later. After prices declined suddenly in August, many customers attempted to repudiate their contracts.

LEGAL ENFORCEMENT OF SALES CONTRACTS. Since the company had honored its purchase obligations, it decided to enforce all customers' contracts by recourse to the courts when necessary.¹

(1920)

The American Sugar Refining Company refines about one-quarter of the sugar consumed in the United States. In May, June, and July, 1920, contracts were made with its customers on a basis of 22½ cents per pound for granulated sugar to be delivered between July and the end of the year. After the sudden decline in prices of raw and refined sugar during the latter part of the summer of 1920, customers attempted to cancel or repudiate their contracts. The American Sugar Refining Company previously had purchased a supply of raw sugar to fulfil the contracts it had entered into with its customers. Confronted with an inventory loss that might prove disastrous if customers did not meet their obligations, the management considered the adoption of a policy of strict enforcement of all contracts by recourse to the courts when necessary.

It was not the usual policy of the American Sugar Refining Company to sell for more than 30 days' deferred delivery. The primary reason for departure from this policy in May, June, and

¹See also Harrison Steel Corporation, p. 242; Randolph Shoe & Leather Company, p. 244.

July, 1920, was the insistent demands from the trade for definite assurance of a supply of sugar for the remainder of the year. An abnormal demand was stimulated by the shortages of the previous three years, uncertainty of the continuance of governmental control of the industry, export requirements, a flood of statistical reports, legislation, prophecies, and strikes. When a shortage threatened, consumers demanded sugar in any form, at almost any price, in large quantities. Householders, retail and wholesale merchants, manufacturers, and speculators, all were eager to secure sugar. The news of a partial crop failure in Cuba intensified the buying activity. Crop estimates were reduced repeatedly; in May, the difference between the highest original estimate and the lowest revised estimate represented a loss of about 1,000,000 tons. With a world shortage and large sales to Europe from Cuba, the partial crop failure in Cuba created an unfavorable outlook for the sugar supply in the United States. In April the demand, regardless of price, was beyond any apparent possibility of supply from the usual refining sources.

As one of the largest units in the refining industry, the American Sugar Refining Company recognized its obligation to furnish its customers with a supply of sugar adequate for their needs, as indicated by former purchases. It bought raw sugar, accordingly, from unusual sources, principally from Java and the Far East. The prices, which averaged approximately 19 cents per pound, were substantially lower than prevailing Cuban prices, and from 5 to 10 cents below the subsequent asking price of the Cuban planters' pool. Beginning May 24, 1920, refined sugars based on these purchases were offered to customers at a uniform basis price of $22\frac{1}{2}$ cents per pound, less 2% cash discount, for delivery in the month in which the sugar was expected to arrive. This price was from $1\frac{1}{2}$ to $3\frac{1}{2}$ cents per pound lower than the competitive prices of refined sugar for similar deliveries which prevailed at that time. After the loss from refining was deducted, the $22\frac{1}{2}$ -cent price left the company a margin of about $1\frac{1}{2}$ cents per pound for operating expenses and a small profit. The public and manufacturers thus were assured of a supply at prices below the prevailing market. Customers quickly took the tenders of sugar, and in most instances it was necessary to accept orders for less sugar than the quantities desired.

Ordinarily purchases were made only from the refiners. In

1920, under the stimulus of unprecedented demand and probable shortage, that policy was abandoned by the manufacturers and wholesale grocers; purchases in excess of the needs of the country were made directly from foreign producers in South America, Europe, the West Indies, and the Far East to arrive during the last six months of the year. Sugar which had not been included in the statistics of the world's supply, and supposedly had been consumed, reached the warehouses of manufacturers and wholesale grocers. It had been secured from points as remote as the interior of China. Sugar came to the United States from nearly 50 countries. In the single month of July, 587,000 tons of sugar reached domestic ports. The fact that vast and numerous commitments were being made by the trade, aside from the commitments placed with the refiners, could not have been ascertained. No statistical means for recording the quantity of sugar purchased in this way were available. In many instances such purchases were concealed.

Much of this sugar from abroad was unfit for household or canning use. Part of it was dark and required additional refining. Most of the purchases were under confirmed letters of credit. Payment became difficult, and the attempted resales hastened the collapse of prices. Under the pressure of these efforts, the market weakened and broke in August; the most violent price decline ever recorded in sugar followed. Customers were as anxious to cancel or repudiate contracts as they had been to secure them. On August 24, the American Sugar Refining Company withdrew from the market and employed its facilities in the completion of the contracts already made.

The company honored all its contracts for the purchase of raw sugar which were the bases of its commitments to its customers, and therefore was justified, the management believed, in requiring its customers to fulfil their contracts. Both parties to the contracts had acted in good faith when orders were placed. The company possessed an order for each sale, signed by the buyer or his agent, which specified the quantity and the price. In each case, confirmation of the order had been received. The size of the individual contracts justified the expense involved. The company's counsel, furthermore, advised the officers that if suits for damages were instituted, favorable judgment could be expected. To allow cancelations was an injustice to other cus-

tomers who completed their contracts in spite of heavy losses. Collection of damages reduced the company's loss from the decreased value of inventory. Because of the prevalence of cancelations in the fall of 1920, it was expected that a policy of strict enforcement adopted by one of the leading companies in the sugar industry would emphasize the inviolability of contracts and aid in the stabilization of conditions in other industries.

Although further business relations with a few of the customers who attempted to repudiate contracts were not desired, the most serious objection to the enforcement of contracts was the loss of good-will. Another obstacle was the weakened financial condition of many customers who were unable to pay for deliveries under contracts. Suits might force a portion of these into bankruptcy. This difficulty could be obviated by extension of the time of payment. The management decided, accordingly, to enforce all contracts and to resort to suits at law for damages whenever customers refused to accept deliveries of sugar.

The following letters were sent to the company's 25,000 customers.

October 13, 1920

TO OUR CUSTOMERS:

In view of the recent very serious decline in sugar prices, we recognize the difficulty of the situation now confronting many of you who have unfilled contracts for refined sugar purchased from us at 22½ cents per pound. We, however, are in the same situation, for we have purchased raw sugars at correspondingly high prices to fill your contracts. In addition, we have to face large losses on our own unsold inventory, also purchased at high prices. We are obliged, therefore, to ask you to carry out your contracts with us promptly.

We desire, however, to be of as much service to you as possible in this crisis, and accordingly we are offering the following plan which we believe will be helpful to the trade and will meet with its approval. To those of you who have not been in a position to withdraw all sugars upon your outstanding contracts, we offer, in the manner herein stated, delayed shipment and terms of payment for such sugars as are not yet withdrawn, in lieu of the present contract terms.

We make this offer to you so that as you require sugars for your needs you may send your specifications upon contracts which you now have with us, and may make settlement for the same upon the following terms of payment and shipment:

You may settle for each invoice—after deducting the usual cash discount of 2%—on part cash and part trade acceptances basis; the cash payment is to be equal to our f.o.b. refinery price in force

at the opening on the day of shipment; in the event that we are withdrawn from the market, the cash payment is to be equal to the "market quotation net cash duty paid" for granulated sugar as given by Willett & Gray in their daily *Sugar Trade Journal* issued on date of shipment. Such cash payment is to be remitted for within seven days after the arrival of the sugar, except that in the case of customers to whom we ordinarily make delivery on a cash basis, then the part cash payment is to be made as usual upon delivery of the sugar. For the balance of the invoice you may give us your trade acceptances, bearing interest at the rate of 6% per annum, payable as follows:

25% in three months
25% in six months
25% in nine months
25% in twelve months

If you desire to avail yourself of this offer you will be expected to furnish your specifications and complete one-half of your withdrawals upon your present outstanding contracts by January 1, 1921, and the balance prior to April 1, 1921.

These terms will not apply to any new sales of refined sugar, nor to invoices bearing date prior to October 14, 1920.

Unless this offer is accepted, all of the terms of your contracts as entered into will remain in full force and effect. You will appreciate that this offer cannot remain open indefinitely and, accordingly, we would request that you notify us, at your earliest convenience, if you desire to avail yourself of the terms of this offer. In the meantime the offer is made subject to withdrawal as to any customer without further notice.

AMERICAN SUGAR REFINING COMPANY
General Sales Manager

December 24, 1920

DEAR SIRs:

On October 13, 1920, we sent you a letter, a copy of which is enclosed, offering a plan permitting of delayed shipment and deferred terms of payment in lieu of your contract terms previously entered into for the purchase by you of certain quantities of refined sugar as therein stated. The making of this offer required us to finance your withdrawals upon your present outstanding contracts for a period of one year. Similar offers have been accepted by a great many of our customers.

We then advised you that this offer could not remain open indefinitely, but requested you to notify us at your earliest convenience if you desired to avail yourself of the terms of this offer, and that unless the same was accepted by you the terms of your contracts as previously entered into would remain in full force and effect.

Accordingly, it will be necessary for you to notify us on or before

January 1, 1921, whether or not you wish to take advantage of the terms of this offer.

Yours very truly,

AMERICAN SUGAR REFINING COMPANY
General Sales Manager

February 4, 1921

Dear Sirs:

During the past four months, unwarranted statements have been made relative to our original motives, our subsequent action, and our present position in connection with the 22½-cent sugar contracts entered into by us with our customers during May, June, and July, 1920.

We wish, therefore, to make a clear statement to you and to our other customers with whom we have had such cordial and satisfactory relations in the past.

During the spring of 1920, there was a severe sugar shortage, the effect of which was augmented by continual predictions of a greater shortage to come. An unprecedented volume of exports and of "toll" business was offered this company, sufficient to take up a large part of its annual capacity. In view of the fact that the shelves of the country were bare, this company did not accept export business, either direct or on "toll" contracts with the producers, holding its entire capacity for domestic customers.

This company, as a matter of principle, does not sell sugar short and did not sell short during this period. We had purchased and had to arrive at all times more raw sugar than we had sold in the form of refined. In fact, after all the 22½-cent contracts had been made, we had left many thousands of tons of high-priced raws, on which our loss has been large.

While heretofore it has not been our policy to sell for long-time delivery, our primary reason for departing from this policy in May, 1920, was the insistent demand of the trade for a definite assurance of a supply of sugar during the next six months.

Our customers eagerly took all the sugar which we offered and clamored for more. Whatever some of them may now seemingly persuade themselves, under the stimulus of financial necessity, they know at heart that they regarded these sugars as their property, which we had sold to them and for which they had agreed to pay.

Had the market gone the other way, our customers would have properly insisted on our performance of our obligation, and we would have fulfilled that obligation.

We are glad to say that the greater part of our customers have stood by their contracts and have taken, or are taking, the sugar as agreed.

Some, however, have repudiated their contracts.

Our customers who have fulfilled their contracts have repeatedly urged that it would be manifestly unfair to them for us to compromise with their competitors.

The commercial world stands unalterably for the inviolability of contracts. We have taken and paid for our raw sugar and we expect our customers with whom we have contracts to take the refined sugar and to pay for it.

Where a buyer recognizes his obligations but is not financially in position to take the loss incident to its completion and can satisfy us by a complete disclosure of his affairs that such is the case, we will endeavor to effect an arrangement with him which will enable him to take the sugar and to spread the payments over an extended period.

In cases, however, where we are convinced that the attitude of the buyer is prompted by a desire to escape his obligation by taking advantage of technicalities, alleged promises or representations of our officers, or similar excuses, in such cases, both for our own protection and for the protection of our customers who have fulfilled their contracts, we expect to exhaust all remedies which the law affords to enforce the contracts.

To this end we have already begun suits. A number of others are in the hands of our attorneys in course of preparation.

This letter goes to all our customers. If you are one of those who so far have not recognized your obligation under these contracts, we trust that this letter will present the matter to you in a new light.

If, on the other hand, you are one of those who have fulfilled their contracts, we hope we may enlist your support in our effort to preserve the sanctity of contracts, without which the business of the country cannot be conducted.

Very truly yours,

AMERICAN SUGAR REFINING COMPANY
Vice-President

Of the total amount of contract sales, 15% were repudiated, involving \$30,000,000. The company instituted 750 suits. A large number of cases were settled out of court, after suit was brought. In order to set an example for customers who had made contracts for small quantities of sugar, contracts which involved the largest amounts were prosecuted first. Damages recovered in one case were approximately \$300,000. The management extended every aid to customers who recognized their obligations, but allowed no exceptions and brought suit against all who persisted in their repudiation of contracts.

In May, 1923, the president summarized the company's position as follows:

1. The contracts in question were made in good faith, and will be enforced in justice to our stockholders and in justice to the great body of our customers who met their engagements in equal good faith.

2. In our letters to the trade of October 13, 1920, and February 4, 1921, we proposed various plans of deferred deliveries and deferred payments, and thus undertook to finance our customers for considerable periods in order to assist them in accepting and paying for their contract sugars. Arrangements effected under these plans are still being carried out in a large number of cases.

3. Where a customer recognized his obligation, but is not financially able to assume the loss incident to accepting and paying for all of the sugar at once, and can satisfy us by a complete disclosure of his affairs that such is the case, we still will endeavor to effect an arrangement with him which will enable him to meet the obligation over an extended period. It is our hope that all customers still obligated under these 1920 contracts may yet be induced to satisfy their obligations to us without the necessity of protracted litigation.

4. In every case, however, where we are convinced that the attitude of the customer is prompted by a desire to escape his obligations, we expect to exhaust all remedies which the law affords to enforce the contract.

5. We ask the support of all of our customers in our effort to uphold the sanctity of contracts, on which the stability of business depends.

President

69. BARTELLE COMPANY¹

DELAYED SHIPMENT UNDER SALES CONTRACT. A balance was due the Bartelle Company for materials that it had delivered under contract to the Fulton Fertilizer Corporation. The latter requested the Bartelle Company to delay shipment of the remaining materials manufactured.

BREACH OF CONTRACT. The Fulton Fertilizer Corporation failed to meet the Bartelle Company's memorandum invoice for 75% of the value of the unshipped materials. This failure was a breach of the contract.

DISPOSITION OF UNSHIPED MATERIALS MANUFACTURED UNDER CONTRACT. Since the Fulton Fertilizer Corporation attempted to secure a release from its contractual obligations in return for permission to apply the materials to urgent orders from other customers, the Bartelle Company decided that the materials should not be used to fill other orders.

(1920)

When payments to the Bartelle Company from the Fulton Fertilizer Corporation became long overdue, the collection depart-

¹Fictitious name used for purpose of disguise.

ment referred the account to the legal department with the following letter:

April 16, 1920

Legal Department,
Bartelle Company,
New York City.

GENTLEMEN:

The total amount of the contract with the Fulton Fertilizer Corporation was \$139,089.70, and we collected 10% of this contract, or \$13,908.97, upon execution of the contract by the purchaser. So far there has been billed for material shipped \$80,431.15, and we have collected (besides the 10% mentioned above) 75% of these bills. The balance outstanding of \$12,064.66 represents the final 15% of these bills.

As their buildings were not ready to receive our shipments of the balance, it was held up and we endeavored to collect 75% of the amount ready for shipment according to the terms of the contract, issuing a memorandum bill for collection purposes only on March 1 for \$55,895.64; which represents material ready for shipment, and insurance. They declined to pay 75% of this, stating that they expected to give us instructions to ship the material during April and would pay in accordance with the contract terms. As they have not paid the final 15% on the material already shipped, we have not thought it advisable to ask them for shipping instructions.

On March 18 their general manager promised to settle this balance of \$12,064.66 between that date and the end of the month, but has since explained that he was unable to do so as he was awaiting money from the engineering firm which is backing the enterprise. The bankers who are endeavoring to sell stock of the Fulton Fertilizer Corporation have advanced the engineering company large sums of money, and although these people have valuable assets, they are unable to realize on them quickly and the bankers, therefore, decline to advance further money to the fertilizer company until they are able to procure a refund of the money advanced to the engineering company.

Very truly yours,

BARTELLE COMPANY

Collection Department

August 25, 1920

Legal Department,
Bartelle Company,
New York City.

GENTLEMEN:

Some motors manufactured for the Fulton Fertilizer Corporation have been ready for some time which we could use toward the completion of

more urgent orders. We should like to know as soon as possible whether these people are going to perform their contract and if the customer is unable to take the motors, will you kindly advise us whether there would be any objection to applying them to other orders.

Very truly yours,

BARTELLE COMPANY
Sales Department

This letter was forwarded by the legal department to Garford & Morey, Attorneys-at-Law, to whom the claim for \$12,064.66 had been given on August 14 for collection.

August 27, 1920

Legal Department,
Bartelle Company,
New York City.

GENTLEMEN:

Answering your letter in regard to whether the Fulton Fertilizer Corporation is going to perform its contract and if not, whether there would be any objection to applying the motors already built on some urgent orders, I beg to say that I have put this situation squarely up to the counsel for the debtor and expect to hear from him by the first of the week, when I will write you further.

I do not think there is any escape from the reasonableness of the proposition that either the debtor should go ahead and pay for these motors or give his written consent that these motors may be used on more urgent orders. I do not think that it would be safe to use these motors until I get the debtor's consent thereto.

Very truly yours,

John H. Garford

GARFORD & MOREY

September 9, 1920

Legal Department,
Bartelle Company,
New York City.

GENTLEMEN:

I had a talk today with the general manager of the Fulton Fertilizer Corporation about your overdue account of \$12,064.66. He says enough money has been provided to pay this amount and he will surely be able to pay up in the next few days. He is evidently agreeable to releasing such motors as you may have a market for.

As I suspected that there might be a little delay in locating the motors to be released, I tried to get him not to associate the payment of the amount due with the release of the motors. However, his mind runs

the other way for some reason or other. If you are able to get the data through to me about the motors to be released, we can put through this matter at the conference to be held the first part of the week, at which I hope to obtain the debtor's check for the above-mentioned sum.

Yours very truly,

John H. Garford

GARFORD & MOREY

September 20, 1920

Legal Department,
Bartelle Company,
New York City.

GENTLEMEN:

We have secured certification of the check for \$12,064.66, being the amount mentioned in your August 14 letter to us. We enclose this check herewith.

We are sorry that we were not able to arrange for the withdrawal of some of the undelivered material from this contract, so that it could be used in other contracts as suggested in your August 25 letter. When we suggested withdrawing certain items from the contract entirely, the customer demurred and wanted to enter into some sort of manufacturing agreement which would have had the effect of excusing any default in his present obligation to accept and pay for material, and we felt that this should not be done. Furthermore, the customer was using the matter of release or extension of delivery date as a reason or excuse for withholding the payment now received, and it seemed best to cease negotiations in regard to material and stand on our demand for the check.

We obtained this check payable to the order of your company yesterday, but we were requested not to apply for certification of the check until today. It seemed best not to deposit the check until it was definitely known that it could be met, and the fact is that when we made a final demand this morning, it became necessary for the debtor to call on one of its officers to put it in funds.

Very truly yours,

GARFORD & MOREY

70. COXINGTON METAL PRODUCTS COMPANY¹

PURCHASE OF MATERIALS ON CONTRACTS. The company required a variety of materials for manufacturing processes and for plant maintenance and operation. It decided to purchase on contract those materials of which the quality and supply were variable.

¹Fictitious name used for purpose of disguise.

PURCHASE OF MATERIALS ON OPEN MARKET. In order to take advantage of fluctuating prices, the company decided to purchase on open market all materials which were promptly obtainable in standard quality.

In its manufacturing processes the Coxington Metal Products Company used semifinished iron and steel products, acids, and miscellaneous screws, nuts, bolts, and wires. For maintenance and operation purposes it required leather belting, water and steam valve packings, lumber, paint, and other materials. The company was undecided whether a uniform purchasing policy should be established to cover all requirements or whether a separate policy should be adopted for each material. The company considered purchasing all materials and supplies by means of formal contracts entered into with sellers at regular intervals, preferably for one year, as contrasted with a general policy of purchase in the open market without long-term contracts.

An advantage of the contract plan was that definite costs could be anticipated over a long period of time. If a contract was placed, the company assumed the risk that prices might decline, and the seller assumed a similar risk that prices might increase during the period. Although it was likely that the gains and losses from such price changes would offset each other over several years, during depressions the obligation of the company to receive materials contracted for might prove embarrassing. On the other hand, when prices were rising, contracts served to protect the company and insure regular deliveries. If contracts were made with reputable sellers for definite periods of time, the quality of the materials presumably should be more uniform because the seller could plan his production schedules in advance on the basis of the formal agreement. A further advantage was that the company's requirements and specifications, if stated explicitly in a contract, provided a check on the quality of materials received and facilitated prompt settlements when deliveries varied from the standard.

In the case of belting used for power transmission, the company's requirements were about 25,000 square feet per year. A contract for this quantity to be delivered in regular shipments throughout the year made it possible for the seller to purchase hides of the required quality in advance and put them through process regularly in time to make deliveries as contracted. If no

contract was made, however, and the purchasing department of the Coxington Metal Products Company bought only the quantities of belting needed from month to month, there was danger that belting to meet the company's specifications might not be obtainable readily, especially during periods of unusual business activity.

Inasmuch as sellers of belting were disposed favorably toward making contracts, the company decided that in regard to belting and similar supplies it should adopt the policy of entering into formal contracts for definite periods of time. In making this decision, the management considered the advantages of an assured supply of standard materials to be of more weight than the disadvantages of having contractual obligations during periods of business depression.

Materials such as spelter and several acids required for manufacturing processes were subject to pronounced variations in price from week to week, and the producers frequently were unwilling to enter into contracts for future supplies. If the company wished to make such contracts, the prices asked by the sellers were likely to be excessive. It was found, for example, that spelter, of which the company used two carloads weekly, ordinarily could be purchased satisfactorily in the open market. Since this material was available in standard grades supplied by all producers, it was not necessary to inspect or sample all lots. If occasional samples were examined, the company could be reasonably certain that the grade was satisfactory. It was decided that spelter and similar materials should be purchased in the open market. Since no contracts were to be made for these materials, the company was in a position to take advantage of low prices to purchase in excess of its temporary requirements; whereas when prices were high, purchasing could be curtailed. The policy of purchasing these materials in the open market involved the risk of possible shortage and consequent interference with production. To counteract this risk, the purchasing department was instructed to keep in close touch with market conditions from day to day.

Analysis of these factors led to the conclusion that the purchasing department should not attempt to follow a uniform policy in making all purchases, but that it should decide in the case of each material what practice was the most advantageous. This policy was expected to lead to maximum purchasing economies.

71. SWEETNAM PRODUCTS COMPANY¹

TERMS OF COAL PURCHASE CONTRACT. A policy of buying coal on specification was to be established. The Sweetnam Products Company decided to require that sellers submit specifications for coal to be furnished. Penalties and premiums were specified for variations above or below established limits in the average ash content, sulphur content, and thermal units of a month's deliveries of coal. This method prevented price disturbances during the life of the contract except for unusual variations in quality.

(1910)

Until 1910 the Sweetnam Products Company had purchased coal primarily on the basis of previous satisfactory dealings and the general reputation of the venders' mines. Noting the movement on the part of several large corporations to formulate coal specifications, the purchasing department of the Sweetnam Products Company decided to work out a suitable scheme of coal specifications in conjunction with the testing laboratory. It was thought that two objects thus might be attained; first, the company would be protected against unscrupulous or ignorant bids by having a common basis known to all bidders; second, coal could be evaluated in accordance with known standards and accepted subject to adjustments when variations occurred.

Upon investigation, it was learned that the plan commonly used by other companies was to draw up specifications fixing the approximate analysis of the coal desired and providing for payment on a sliding scale above or below the base price as quality of coal delivered varied, and especially as the thermal value was above or below the standard. For example, the specifications might call for a definite percentage of sulphur, with the provision that a specified premium should be paid when the sulphur content was less than the fixed percentage and a specified penalty imposed if it was greater. Penalties and premiums similarly were provided with respect to ash content, amount of volatile matter, and number of thermal units.

The chief of the testing laboratory objected to this plan of specification, because it was inflexible and therefore might prevent consideration of coal which was excellent fuel but which did not meet the fixed requirements in all respects. Such coal either might be rejected because it did not conform to specifications or

¹Fictitious name used for purpose of disguise.

might be penalized prohibitively in price. He also doubted whether this plan was always fair either to vender or buyer. In the case of the vender, small fluctuations in quality of shipments of carefully mined, well-prepared coal from any mine were accidental and beyond the control of the mine operator. At the same time, from the buyer's standpoint, it was almost impossible to realize the gain or loss in a power plant from relatively small changes in the composition of the coal used, because of the many uncontrollable variables. For example, the stokers could not take such changes into account and regulate their operations accordingly.

The chief of the testing laboratory further pointed out that it was desirable from the point of view of both parties to a contract to have a relatively fixed price throughout the life of the contract. The seller never was willing to deliver coal below a definite minimum price, under which he did not consider the sale profitable. The probable tendency, therefore, was for the seller to set the price so that any penalties incurred would leave it above the minimum, even though according to the law of averages premiums and penalties were expected to balance eventually, if the standards had been fairly set. The buyer, under such specifications, therefore, might have to pay higher prices for his coal. He would be unable, furthermore, to determine his costs accurately in advance; and whenever premiums were paid, he would be doubtful as to whether he actually was getting full value for his money.

With these objections in mind, the chief of the testing laboratory drew up a plan by which the bidder was to name an average content for the coal he expected to deliver. According to this plan, a base zone was created for each specification, within which variations from the average figure set down in the contract were not penalized or given a premium. When a contract was accepted, samples were to be taken from each car shipped during a calendar month, and a composite of these samples was to form the basis of the analysis for that month. This analysis then was to be compared with the average composition which the vender had contracted to deliver. The proposed basis of settlement was illustrated by the following quotation from a sample specification drawn up by the chief of the testing laboratory:

Settlement for coal received during any calendar month shall be made

after the completion of analysis of the average sample representing coal received during said month, and not later than the fifteenth day of the month. The price per ton to be paid by the purchaser shall be the base price quoted by the contractor, with deductions and additions for variations in the quality, and for failure to deliver in drop-bottom cars, as hereinafter provided.

When analysis of the average sample for any calendar month shows that the percentage of ash is not more than one higher or lower than the standard average percentage, and that the percentage of sulphur is not more than 0.40 higher than the standard average percentage, and that the thermal value is not more than 150 B.t.u. higher or lower than the standard average B.t.u., then settlement for the coal received by the purchaser during said calendar month shall be made at the base price, without additions or deductions for quality. When the analysis shows that the percentage of ash is more than one lower than the standard average percentage, then an addition of 2 cents to the base price per ton will be made for each 0.50, or fraction thereof, that the percentage of ash is more than one lower than the standard average percentage; and when the analysis shows that the percentage of ash is more than one higher than the standard average percentage, then a deduction of 2 cents from the base price per ton will be made for each 0.50 or fraction thereof, that the percentage of ash is more than one higher than the standard average percentage. When the analysis shows that the percentage of sulphur is more than 0.40 higher than the standard average percentage, then a deduction of 2 cents from the base price per ton will be made for each 0.25, or fraction thereof, that the percentage of sulphur is more than 0.40 higher than the standard average percentage. When the analysis shows that the thermal value is more than 150 B.t.u. higher than the standard average B.t.u., then an addition of 1 cent to the base price per ton will be made for each 50 B.t.u., or fraction thereof, that the thermal value is more than 150 B.t.u. higher than the standard average B.t.u. When the analysis shows that the thermal value is more than 150 B.t.u. lower than the standard average B.t.u., then a deduction of 1 cent from the base price per ton will be made for each 50 B.t.u., or fraction thereof, that the thermal value is more than 150 B.t.u. lower than the standard average B.t.u.

The chief of the testing laboratory contended that this plan prevented disturbances of price during the life of the contract, since price adjustments were needed only for extraordinary conditions.

Objection, however, was made that bidders might not state their standard average fairly; some might set the average quality too high in order to make an attractive bid; others might set the average quality too low in order to obtain premiums in settle-

ment. In answer to these objections, the chief of the testing laboratory pointed out that if the bidder set his quality too high, he automatically would be paid a proper price when the coal delivered was poor; whereas, if he set his quality too low, he would have to reduce his price proportionally in order to secure consideration of his bid.

The Sweetnam Products Company adopted the plan suggested by the chief of the testing laboratory.

72. WINNICK CANNING COMPANY¹

SEASONABLE NEED FOR CONTAINERS. The company preserved fruits and vegetables in metal cans which it bought from one can manufacturer for immediate delivery just before each crop was gathered.

PURCHASE ON CONTRACT. The can manufacturer offered a three-year contract which allowed a substantial discount. The contract provided for assured delivery of the required cans to the canning company's warehouse against warehouse receipts. Deliveries were to be made during the spring, but invoices were not to be payable until the cans were to be used. Despite the long period of the contract, the Winnick Canning Company decided to accept it.²

(1916)

The output of the Winnick Canning Company was valued at approximately \$250,000 annually. The products included canned cherries, strawberries, tomatoes, beets, rhubarb, peas, and corn. The active season commenced in May or June and continued through October. During this period, the vegetables and fruit were preserved as they became ripe. Twelve or thirteen carloads of cans, which cost slightly more than \$1,000 per car, were used each season.

Prior to 1916 the company had purchased cans as they were needed. A week or two before each crop was ready for canning, orders for immediate requirements of cans were placed with a manufacturer. When the cans were shipped, the seller forwarded a sight draft with an order bill of lading. In order to obtain delivery the Winnick Canning Company had to pay the sight draft. The cans were unloaded from the cars at a railroad siding, one-

¹ Fictitious name used for purpose of disguise.

² See also Martel Shoe Manufacturing Company, p. 268; Ballou Stove Company, p. 270.

half mile from the factory, and transported by truck to a concrete warehouse adjacent to the factory.

In 1916 the company had to decide whether or not to accept an offer from the manufacturer to make a three-year contract according to which cans should be supplied under the following conditions. The Winnick Canning Company was to purchase from the manufacturer all the cans which it needed during the three-year period. In return, the manufacturer allowed a substantial discount which represented the saving in selling and rehandling expense made possible by the agreement. Prices were to be determined at the first of each year and were to be based upon prevailing prices of tin plate, which was the primary raw material used in the production of cans. Full allowance would be made for price reductions made between January 1 and the date of payment. The manufacturer agreed also to take back surplus cans at the end of the season. In April, the company was to supply the manufacturer with an estimate of the quantities of each size of can to be used during the season. In submitting these estimates, the company was to specify the definite quantities of cans required for each product; the approximate dates on which each crop became ready for canning were known from experience. The manufacturer, in return for the privilege of shipping the required cans in carload lots to the factory at any time after the spring estimates were submitted, guaranteed delivery prior to actual need for cans. The company agreed to place these cans in its warehouse whenever the manufacturer shipped them. Instead of sending a sight draft for each carload, however, the manufacturer was to submit a warehouse receipt which the Winnick Canning Company should fill out and return to the manufacturer. The specific shipment of cans covered by each warehouse receipt was to be stored in such a way that it could be distinguished from all other shipments. The manufacturer agreed to secure and pay for insurance policies, effective from date of delivery to date of payment of invoices on all cans delivered under these conditions. Just before the company needed to use the cans, it was to notify the manufacturer, who then would forward a sight draft attached to the warehouse receipt. The payment of the sight draft gave the company possession of the warehouse receipt, and the cans became the property of the company. If additional supplies were needed during the season, they were to be delivered with

bill of lading attached to sight draft in the same manner as previously.

When this offer was made, the Winnick Canning Company recognized that it presented advantages in the purchase of cans which the other method of buying did not possess. In the first place, it assured the company of a supply of cans sufficient for estimated requirements, delivered in advance of the period during which they were to be used. This assurance had not been given when the company purchased cans during the preserving season, because many other canneries bought then, and delays in carloadings by the manufacturer and in deliveries by the railroads had occurred occasionally. At other times, the crops had ripened more rapidly than usual, and cans previously ordered could not be delivered in time to meet the factory requirements.

According to the proposed contract the manufacturing company could adjust its production schedules to provide for the Winnick Canning Company's needs. The manufacturer, furthermore, promised to deliver a majority of the estimated requirements several weeks or even months prior to the time of use. The Winnick Canning Company had sufficient warehouse space to accommodate these cans, and since no expense was involved either in interest charges or in insurance, there was no objection to the proposal on the basis of increased carrying costs. Cans delivered before the beginning of the season could be received and stored by the watchman, engineer, and helper whom the company employed throughout the year.

It was entirely feasible for the company to submit to the manufacturer the estimated can requirements in March or April because the selling agent who distributed all the company's products booked orders with wholesale customers for the summer's output before the date set for submitting the estimates.

In one of the manufacturing operations, the cans, after having been filled with fruits or vegetables and subjected briefly to steam, were fed from a moving belt through an automatic machine. This machine, equipped with magazines which held the tops for the cans, stamped a top on each can moved through it.

The cans used by this company were of five sizes; the dimensions of each size were as shown at the top of the opposite page.

Cans of number 2, 2½, and 3 sizes were sealed by a machine of one capacity, and number 5 and 10 by a larger machine. The

Size Numbers of Cans	Dimensions	
	Diameter (Inches)	Height (Inches)
2	$3\frac{7}{16}$	$4\frac{9}{16}$
$2\frac{1}{2}$	$4\frac{1}{16}$	$4\frac{11}{16}$
3	$4\frac{1}{4}$	$4\frac{7}{8}$
5	$5\frac{1}{16}$	$5\frac{5}{8}$
10	$6\frac{3}{16}$	7

Winnick Canning Company used only two machines, one of each size; these machines were rented from the can manufacturer. It was the practice of can manufacturers to rent these machines rather than to sell them outright. Rental charges were so low that the Winnick Canning Company never had considered purchasing the machines. These machines did not accommodate satisfactorily the cans supplied by other makers, each of whom produced cans which varied in minor details sufficiently to make difficult their use in machines rented from other manufacturers.

The company had purchased its cans from this manufacturer for several years and had been satisfied with the manufacturer's attitude in all transactions. Similar three-year contracts had been made by this manufacturer with other canning companies. These arrangements always had appeared satisfactory to the other companies and there was no indication that the manufacturer did not honor these contracts in all particulars.

The principal objection to accepting this offer was that the company agreed to buy all its cans from one manufacturer over a three-year period. If the company became dissatisfied with the quality of the cans delivered or with its relations with the manufacturer, it would be difficult and unsatisfactory to break this contract because of possible extended litigation. Other producers of cans, furthermore, were unwilling to sell to canning companies which had contracts outstanding with competitive manufacturers.

When fruit and vegetables were received at the factory, it was essential that they be preserved at once because of their perishable nature. Since the proposed contract provided assurance of an ample supply of cans at all times, the company decided that the offer should be accepted. This advantage, in addition to the fact that the offer carried a reduction of prices, seemed more than sufficient to outweigh the risks involved, especially since no great changes in production processes seem probable.

73. MARTEL SHOE MANUFACTURING COMPANY¹

PURCHASE OF SUPPLIES FROM NUMEROUS SOURCES. During the inflation period of 1919 and 1920 the company purchased shoe findings and supplies in large quantities from a few venders, in order to secure uniform quality, prompt delivery, and minimum prices. In 1923 the company's inventories were kept as low as possible; frequent small purchases were necessary. Venders took advantage of the company's policy of limiting the sources of supply, to charge prices above the market. The company decided, therefore, to distribute purchases widely.²

(1923)

Between 1919 and 1923 the production of the Martel Shoe Manufacturing Company dropped from 10,000 to 5,000 pairs of shoes per day. The inventory of raw materials maintained by the firm in 1923 was held at from one to two months' supply. Purchases of materials were but a small fraction of their former size. In his search for lowest prices consistent with desired quality, it was the purchasing agent's problem to decide whether to continue to concentrate his purchases among a few sources of supply, or to distribute his orders more widely.

Prior to 1920 the Martel Shoe Manufacturing Company made women's high-grade boots. Sales were highest in the spring and in the fall. Salesmen took orders for spring and fall delivery five months previous to the date needed. On the basis of these orders the management estimated production for the ensuing six months. Purchasing of upper leathers was done twice yearly for six months' delivery. Shoe findings, soles, heels, and supplies were purchased, also, on a six months' delivery basis.

Production was planned as usual for the spring season of 1920, but in March, when inventories and prices on raw materials were at their maximum, consumer demand and prices of raw material declined rapidly. The company, rather than repudiate its agreements, as was done freely by many manufacturers, adopted a policy of receiving deliveries as contracted.

Purchasing up to that time in the findings and supplies department had been made consistently from a few standard sources of supply which had rendered satisfactory service and which were known for standard quality. During the shortage in the first

¹Fictitious name used for purpose of disguise.

²See also Winnick Canning Company, p. 264; Ballou Stove Company, p. 270.

three months of 1920 and during the years preceding, these sources of supply had given preferential terms in many cases; the quality of their materials had been maintained.

When the decline in prices came, in March, 1920, shoe manufacturers, in order to dispose of surplus raw materials, created a style demand for oxfords, and the demand thus created developed into a desire for freakish styles. The Martel Shoe Manufacturing Company was unable to sell boots and was compelled to follow the style trend of production. As the styles became more varied, experience proved that purchases had to be made only for immediate use, and by November, 1923, the buyer of findings and supplies was committed definitely to this policy. Low production in 1923 was caused partly by decreased demand, and partly by greater work required on the fancy shoes with consequent reductions in operating capacity.

Of the 10 general types of raw materials, experience showed the approximate rate of consumption of the 3,000 items in all lines purchased. On the basis of this experience, and in place of a perpetual balance of stores system, physical inventories were taken monthly, weekly, biweekly, or otherwise, as the material needed attention. With the majority of materials, one month was the lowest time limit allowable for the delivery of orders, and the stock was held at from one to two months' supply.

In 1923, with inventories at their lowest and a policy of retrenchment imperative, the purchasing agent inquired the prices for materials from other sources of supply, and learned that his established sources were abusing their standing through a sense of assurance of the company's orders and were holding their prices above the competitive market. By distributing his orders, the purchasing agent discovered that he could secure lower prices. He knew that conditions had changed from a "sellers'" to a "buyers'" market, and he saw that by letting it be known that he was in the market, he could obtain even better service than before. With new companies he might have difficulty with fluctuating quality, but manufacturing standards and tests were well established in the company's operating departments. Therefore, the purchasing agent and his assistants, who personally inspected all merchandise received, knew immediately whether or not it satisfied specifications given at the time of purchase. A policy of refusing materials not equal to specifications overcame the conse-

quences of quality variation. The purchasing agent learned that these changed methods of purchasing often resulted in lower quotations from the former sources.

The purchasing agent knew that if another period of shortage and difficulties in deliveries were to occur, the probability of his receiving preferential service under the new system was slight. Previously, when production was high and six months' supplies were purchased at one time, the mere quantity often resulted in unusual service because the sources knew that they had the entire order; and they knew also that to obtain future orders they must quote reasonable prices. Purchases, however, in 1923 were made in thousands of dollars, whereas previously they were made in tens and hundreds of thousands of dollars. The arguments of quantity purchasing, therefore, were less effective to secure either confidential price or service.

Whatever policy of purchasing was in force, whether on spot market, or short-time contracts, or in advance of operating needs, concentration of supply with a few companies was dangerous. Twice the purchasing agent had had to make expensive rush purchases to cover a delay occasioned by strikes in the plants which had contracted to fill orders. Transportation conditions also were a factor against concentration.

In view of the prevalent emphasis on rapidity of stock-turn and on close buying, the purchasing agent definitely arranged to distribute his orders among numerous companies rather than to rely upon a few regular sources of supply.

74. BALLOU STOVE COMPANY¹

PURCHASE OF MATERIALS FROM SEVERAL SOURCES. In order to secure the advantages of prompt deliveries and favorable terms, the company's policy was to concentrate purchases of each material at one source of supply. The company had paid high prices in some instances and was not protected against interruption of deliveries by strikes or transportation difficulties. It decided, therefore, to place orders with two or more vendors whenever the quantity purchased was sufficient.²

(1923)

¹ Fictitious name used for purpose of disguise.

² See also Winnick Canning Company, p. 264; Martel Shoe Manufacturing Company, p. 268.

In October, 1923, the Ballou Stove Company received a month's supply of gas cocks which did not meet specifications. This shipment was next to the last one due on a yearly contract which had been placed with one firm. A letter to the supplying company brought the response that no mechanical alteration could be made on the lot delivered and that a replacement order of gas cocks could not be given preferential delivery. Attention was focused, therefore, on the Ballou Stove Company's established policy of concentrating purchases of each type of material at one source of supply.

The events leading up to the consideration of changing the policy were as follow: On his appointment, in 1919, the purchasing agent of the Ballou Stove Company continued the company's established policy of concentrating purchases of each type of material at one source of supply. Each of these companies had offered satisfactory service and prices. The purchasing agent's experience, during the period of intensive manufacturing in 1919 and 1920, apparently proved the wisdom of such concentration of orders.

In 1920 the Ballou Stove Company erected a building for the manufacture of both gas and electric stoves and heaters. In accordance with his policy, the purchasing agent, after he had secured competitive bids, bought each type of material required for these products from one company thereafter.

Gas and electric heaters made by the Ballou Stove Company were manufactured under patent. A unique item was the type of gas cock required, which had to be made to order according to rigid specifications as to size, length, and bend of pipe, and depth, gage, and length of thread. In 1920 the purchasing agent ordered a year's supply of gas cocks from one company; deliveries were made monthly as produced. Service proved satisfactory that year. Although the price of the article was increased arbitrarily beyond a point deemed reasonable by the purchasing agent, the contract was renewed in 1921, and renewed again in 1922.

During the period from January, 1920, to October, 1923, union influence upon labor conditions had caused the service of the majority of the plants with which the company had contracts to become increasingly unsatisfactory. During 1923, moreover, the prices quoted by these companies frequently were higher than could have been secured by receiving bids in the open market.

When the shipment of defective gas cocks arrived in October, 1923, the Ballou Stove Company had 1½ months' supply in stock. Final shipment on the contract was to be made in one month.

The attitude of the supplying company appeared to be hostile. Under a policy of concentration, moreover, strikes and transportation difficulties might interrupt at any time the supply of materials. A period of more than two months was needed in which to secure satisfactory gas cocks from another company. Since only 1½ months' supply was in stock, and since the quality of the final shipment to come was doubtful, production might be suspended temporarily and shipment to wholesalers be stopped. The same interruption was probable if contracts for any other material were not filled according to specifications.

The concentration policy had obtained adequate service prior to 1920, and later, when the market was less stable, the policy had resulted in confidential terms and special service from several companies. On the other hand, concentration of orders for gas cocks had inconvenienced the company and had created a shortage in the supply of a material which, because of the particular specifications, could not be replaced immediately. The Ballou Stove Company, moreover, had accepted a price higher than was necessary.

The purchasing agent observed that buyers for some companies usually divided all orders between two sources of supply and established relations with one or two other companies which, at any time, might be requested to furnish materials. By this policy, competitive prices and maximum service were secured from the two supply companies.

The purchasing agent of the Ballou Stove Company decided that whenever the quantity of material to be ordered was sufficient, it was advisable to place orders, for the year and for spot delivery, with two or more companies.

75. QUALITY TEA COMPANY¹

IMPORTER'S PRIVATE BRAND. The company imported tea of fine quality which it sold in four states under its own brand.

¹ Fictitious name used for purpose of disguise.

INCREASED DISCOUNT REQUESTED BY WHOLESALERS. The company's tea was sold through 190 wholesalers who served about 12,500 retailers. In 1920, representatives of the wholesalers in two states requested an increased discount.

PRICE-CUTTING BY WHOLESALERS. Wholesalers already were cutting sales prices to retailers. An increased discount might cause further price-cutting.

DIRECT SALES TO RETAILERS. Despite the risk of decreased sales and higher expenses, the company decided to sell directly to retailers in all four states, in order more readily and widely to distribute fresh stocks. Orders were accepted but no longer solicited from wholesalers.

(1920)

In May, 1920, delegations of grocery wholesalers from two nearby states called upon the manager of the Quality Tea Company in New York and told him that they could not continue to sell "Quality" tea if he did not change the terms of sale to them from 10% off list price, 2% 10 days to 15% off list, 2% 10 days. The manager had contemplated a change from distribution through wholesalers to direct sales to retailers at the customary terms offered by wholesalers, that is, list as quoted by the Quality Tea Company, on credit terms of 2% 10 days, 30 days net. The plan for retail distribution, however, permitted continued sales to wholesalers on the usual terms, provided any wholesaler chose to order on his own initiative. The wholesalers' statement made it necessary for the company to decide whether to adopt the new plan or to allow the lower price to wholesalers.

The delegations represented all the company's wholesale customers in the two states, but not its wholesale customers in other districts. It did not seem practicable to sell through retailers in two states and to wholesalers elsewhere, or to quote discounts that were not uniform in all territories. The company already was selling its merchandise to nearly every wholesale distributor of tea in its territory.

In 1920 the Quality Tea Company was selling tea in one-eighth, quarter, half, and pound packages to 190 wholesalers in Rhode Island, Connecticut, New York, and New Jersey. Tea was retailed at three prices, 70 cents, 80 cents, and 90 cents per pound, printed on the packages, which also bore the name "Quality" and the brand of the Quality Tea Company. In May, 1920, sales were estimated to be at the rate of 820,000 pounds per

year, approximately \$500,000 gross. In 1919 the net profits of the company had been satisfactory. On the basis of the cost of tea imported, costs of packing, sales and overhead expense, and fair margin of profit, the Quality Tea Company published list prices to wholesalers, changing the lists as occasion required, when rapid fluctuations took place in the price of imported tea. These list prices on the average were 15% less than sales prices printed on the package. They included freight and parcel-post charges.

Ten salesmen were paid salaries, approximating \$45 weekly, and expenses, including operating expenses of motor cars owned by the company. The company advertised extensively to consumers through newspapers and local magazines. Most of the shipments were made by freight and the remainder by parcel-post. The company insisted that soiled packages or old and musty tea be returned at its expense. It also agreed that, when wholesalers were overstocked or tea did not sell, they could return the merchandise at the expense of the Quality Tea Company. This applied to retailers as well as to wholesalers, but the former had to make their returns through the wholesalers from whom they had purchased. The basis of the appeal to consumers of "Quality" tea was exclusive quality; the appeal to wholesalers was service.

If the demand for 15% off list were granted, the company would weaken its position with wholesalers who, at any time, might make further demands. Wholesalers already were cutting sales prices to retailers. A larger discount would increase the temptation to cut prices and make efforts to control the practice less effective. The manager had called upon retail grocers who sold "Quality" tea and, in many instances, when he asked for expensive tea he was offered competing brands. The wholesalers' salesmen sold several other brands of tea and emphasized the sales of those which allowed wider margins of profit to wholesalers and retailers. Retailers were cutting prices, and discontinuance of this practice could not be urged effectively if sale were continued through wholesalers.

If the company granted an additional 5% off list to wholesalers, it might fail to make a profit. A percentage of net profit equal to that obtained in 1919 would not be sufficient to cover this reduction unless sales increased appreciably. Such an increase was by no means certain. The proposed terms, furthermore, could

not be granted exclusively to those wholesalers who had demanded them, but would have to be extended to all.

Selling to retailers would give the company complete control over service. Salesmen could make certain that retailers were satisfied and that merchandise returnable under the guaranty was sent back. Arrangement of advertising material, of packages on shelves, and general display might be suggested by the company's salesmen. "Quality" tea would have an advantage over competing brands, since it was to be sold by specialty salesmen. Advertising and sales could be coordinated more effectively than previously had been possible. Since the volume of sales probably would be smaller for the first year or two of the new plan, the manager did not expect that it would be necessary to increase the inventory to an appreciable extent immediately.

Direct selling to retailers, however, had several disadvantages. The 190 wholesalers shipped to approximately 12,500 retail stores. Orders from retail stores were usually not over 10 pounds per order, approximated an average value of \$6.50, and usually were placed monthly. If the proposed change were made, these small orders would have to be shipped by parcel-post, which meant increased shipping costs. It was known that retailers often took from 60 to 90 days to pay their bills, instead of discounting as promptly as wholesalers; hence a policy of selling directly to retailers would necessitate the investment of approximately \$100,000 additional capital for an equal volume of sales. Credit losses on sales through wholesalers had been negligible, but the manager knew from statements by a few wholesalers that credit losses occasionally might approximate 1% or more of gross sales to retailers.¹ He believed that the percentage of such losses could

¹See, however, Bureau of Business Research, Harvard University, *Bulletin No. 40*, "Operating Expenses in the Wholesale Grocery Business in 1923," p. 67.

The common figures for losses from bad debts in the wholesale grocery trade for the years 1916 through 1923 were as follows:

NET SALES = 100%

Year	Losses from Bad Debts	Number of Firms
1916.....	0.3 %	108
1917.....	0.3	130
1918.....	0.22	145
1919.....	0.15	159
1920.....	0.2	322
1921.....	0.3	344
1922.....	0.4	442
1923.....	0.4	501

be reduced if the salesmen, after instruction by the credit department, were to visit customers whose bills were overdue and to attempt to make collections. He realized that this practice, however, might interfere with the volume of sales since salesmen might devote too much time to collections.

In order to maintain distribution, the company believed that 20 salesmen would be necessary immediately to cover the territory and that sales managers must be employed to take charge of the increased force. In addition to sales and capital expenses, the clerical force would have to be augmented in order to keep 12,500 accounts instead of 190, and at least 24 clerks would be needed ultimately instead of the 14 then employed.

The manager admitted that selling directly to retailers might result in the temporary loss of approximately 50% of the company's sales because of the withdrawal of the wholesalers' support. With 10 more salesmen, added sales expenses at first might be greater than the additional 5% discount to wholesalers. Whether the volume increased or decreased, other officers of the company might see only the immediate loss in net profit or maintain that the increase in volume of sales, if any developed, could have been attained just as surely through wholesalers. The manager believed, however, that the quality appeal of the product could be emphasized more effectively by selling directly to retailers, and that volume and breadth of distribution could be increased. He refused the additional 5% and arranged for the organization necessary for selling directly to retailers. Orders were accepted from wholesalers who took the initiative in sending orders, on the basis of 10% off list price, 2% 10 days. Sales in 1920 approximated 820,000 pounds; in 1923, 1,250,000 pounds. Credit losses were from 1/7 to 1/8 of 1% of gross sales.

76. DRURY HOSIERY MILLS¹

CHANGE FROM STAPLE GOODS TO STYLE GOODS. The company manufactured low-price, durable hosiery, which it distributed to wholesalers, retailers, chain stores, mail-order firms, and buying syndicates. In 1923 the company added a variety of styles and colors to its line, in order to share in the popular demand for that type of merchandise. The style demand seemed to be of recent growth.

¹Fictitious name used for purpose of disguise.

DIRECT SALES TO DEPARTMENT STORES. In 1923 the company decided to endeavor to increase substantially the proportion of direct sales to department stores.

(1923)

In 1923 the Drury Hosiery Company, located near Philadelphia, had been selling durable, low-price hosiery for men, women, and children for more than a generation. Sixty-five per cent of the domestic sales were made to wholesalers; 29% to chain stores, mail-order distributors, and buying syndicates; and 6% to retailers. At that time, the executives of the company were dissatisfied with this policy of distribution and contemplated attempting to increase substantially sales made directly to department stores in important buying centers, in addition to its established distributors.

When the mills were producing at their full capacity, 60% of the hosiery manufactured was for women, 25% for men, and 15% for children. All the company's hosiery was seamless, being knitted on a circular machine and made in one piece from the top to the toe, as contrasted with full-fashioned hosiery, which was knitted on a flat machine, fashioned to the proper shape, and then sewed together. The full-fashioned stocking popularly was believed to be superior to the seamless stocking in that it fitted the ankle better and held its shape permanently. Although during the period from 1918 to 1923 improvements in seamless hosiery machinery had been effected that made seamless hosiery more satisfactory than formerly, it was recognized that many consumers still were convinced strongly that full-fashioned hosiery had a more correct fit. Full-fashioned stockings were more expensive to produce than seamless stockings, and consequently sold at higher prices. The Drury Hosiery Mills had no full-fashioned hosiery machinery.

In 1923 the company produced about 30 styles of hosiery in approximately 25 colors; for women there were several grades of soft combed cotton stockings, hard-twisted cotton lisle, mercerized cotton, pure fiber silk, pure silk and fiber mixed, fiber silk and wool, and silk and wool. There were styles made of similar materials for men, and four styles of standard durable hosiery for children. The company did not produce hosiery in fancy patterns. Changing styles, however, had a marked effect on colors. Retail prices of women's hosiery ranged from 25 cents to \$1.50, of

men's from 25 cents to \$1.35, and of children's from 25 cents to 50 cents per pair.

From 1916 to 1919 an advertising campaign had been carried on in national magazines; the durability and low price of the hosiery had been stressed in the advertising copy. In 1920 the profits of the Drury Hosiery Mills had declined, and as a result the national advertising had been discontinued and newspaper advertising substituted on a smaller scale in the territories where most sales had been secured.

A flat price per dozen with no quantity discounts was quoted to all customers. It had been deemed necessary, however, to make special concessions to important customers at times when business was inactive. In 1923, 65% of the sales were under the Drury brand and 35% under private brands. Eighty-two per cent of the sales under the Drury brand were made in New York, Pennsylvania, New Jersey, Maryland, and Ohio; and 18% in all the other states. Wholesalers with large annual sales preferred to sell hosiery under their own private brands, but the executives of the Drury Hosiery Mills desired to reduce sales under private brands and to increase sales under the Drury brand. Most of the Drury Hosiery Mills' wholesale customers were medium- and small-size firms whose average yearly purchases amounted to about \$10,000 each. Frequently wholesalers cut prices on Drury hosiery in order to undersell their competitors. Although some advantages were recognized in selling hosiery under the private brands of important wholesalers, the company was opposed to this policy because it tended to make the company too dependent on a few wholesale customers. The Drury Hosiery Mills might, perhaps, have secured more effective cooperation from wholesale distributors by granting them exclusive agencies to sell hosiery under the Drury brand. The executives were not willing to follow that policy, however, since they thought that the eventual outcome of such a policy would be restricted sales.

Wholesalers with small and medium-size sales volume distributed hosiery mainly to general merchandise stores and retail dry-goods stores in small cities and towns. They were not a dominant factor in the distribution of hosiery to department stores in large cities.

An additional consideration was the fact that mills situated in the southern states were able to produce staple, low-price cotton

hosiery at costs lower than those at which mills located in the northern states were able to operate. Two important southern competitors had been underselling the Drury Hosiery Mills on staple, low-price goods during 1922. Competition from southern mills, however, was not so severe on higher grades of hosiery.

Although the policy of the Drury Hosiery Mills had been to distribute entirely through wholesalers, departures from this policy occasionally had been made for reasons of expediency. During the period of depression early in 1921, when the company needed all the orders it could secure, it had begun selling low-price staple hosiery to two variety chain-store organizations which sold stockings at prices as low as 20 cents per pair. The Drury Hosiery Mills also sold directly to several department stores in the two cities in which its sales offices were located. In addition, sales were made to a few mail-order distributors and one or two retail buying syndicates.

During the decade from 1912 to 1922, a change appeared to have taken place in the hosiery trade. Prior to that time durability and economy in price were said to have been the principal motives in the purchase of most of the hosiery manufactured by the Drury Hosiery Mills. By 1922, however, there apparently was a much greater demand than formerly for stylish silk and woolen hosiery. In 1922 and 1923, hosiery colors were subject to rapid changes in popularity, such style preferences appearing in the purchase of low- and medium-price stockings as well as in the purchase of high-grade hosiery.

In order to cope with the existing situation, the sales manager of the company proposed that it undertake to make as many sales as possible directly to department stores. There were several objections to this method of distribution. Retailers customarily purchased more frequently and in smaller quantities than did wholesalers; the number of customers also would be greater; and hence important changes in the sales organization would be necessary. In selling to wholesalers, furthermore, the company had not carried finished hosiery in stock. Hosiery was knitted and carried in the gray, but was not dyed until after orders had been received. Sales to department stores would entail the carrying of dyed stock ready for shipment. The estimate of the average stock that would be required eventually was 200,000 dozen pairs of stockings per year. The establishment of warehouses at sev-

eral central points also would be essential to national distribution; but this step was unnecessary for several years. A serious risk was involved, also, in carrying finished stocks, since the color preferences of consumers apparently changed with rapidity. The company filled wholesalers' orders with cases, each of which contained hosiery of only one style and color. A case ordered by a department store had to be made up of hosiery in assorted styles and colors. If a policy of selling to department stores were to be adopted, the executives of the Drury Hosiery Mills did not expect to accept orders for less than case lots. Hence, the volume of sales to wholesalers was likely to remain fairly substantial.

In the period following the depression of 1921, department stores had increased the proportion of their purchases from wholesalers in order to secure a rapid rate of stock-turn. In 1923 it was not entirely clear whether or not this was a permanent change in the buying methods of department stores, but caution in the estimating of future requirements was expected so long as the memory of the experiences in 1920 and 1921 remained fresh in the minds of business men.

The company concluded, however, that it could secure the largest sales volume by selling directly to department stores in important buying centers, and decided to develop that method of distribution. The distribution of low-price Drury hosiery to rural retail stores and retail merchants outside the principal shopping centers in urban communities was to continue through wholesalers.

77. CARDIFF ROOFING COMPANY¹

IMPROVED PRODUCT. As a sales subsidiary, the company sold roofing and plumbing supplies to wholesalers, retailers, and industrial users. An improved type of roofing was to be introduced, with national advertising, at prices 20% above those of unimproved roofing.

INTRODUCTORY SALES THROUGH WHOLESALERS. The company decided to sell the new product through wholesalers only, in order to obtain their full cooperation.

(1921)

The Cardiff Roofing Company was a district sales subsidiary of the Cardiff Manufacturing Company, which produced roll

¹Fictitious name used for purpose of disguise.

roofing; steam, water, and hot air pipe coverings; and plumbing supplies, such as steam packing and asbestos furnace coverings. The parent company owned the majority of the stock in the sales corporation; the remaining stock was owned by the manager and other officers of the Cardiff Roofing Company. The manager and his assistants outlined all sales policies and were responsible to the Cardiff Manufacturing Company only for annual profits.

In 1921 the manufacturing company produced an improved type of pipe covering under a trade name. Manufacture of the established brand of pipe covering was to be continued in small quantities. The new product was to be advertised nationally and an attempt made to remove it from the class of merchandise which competed on a price basis. The issue for the manager of the sales company to decide was whether to sell the improved type of pipe covering as other plumbing supplies were sold, to wholesalers, steam-fitters, and industrial users, or to distribute it only through wholesalers of plumbing supplies.

The Cardiff Roofing Company had one central warehouse from which orders for its district were filled. Its 20 salesmen solicited orders from wholesalers, retailers, and industrial users. Most of the last group were manufacturers. Roll roofing, a trade-marked product of high quality for which there was consumer demand, was sold directly to retailers who were granted exclusive agencies for their local territories. Prior to 1921, plumbing supplies and pipe coverings were sold to wholesalers, to retailers, the majority of whom were steam-fitters, and to industrial users. Plumbing supplies and pipe coverings bore the company's trade name, but did not enjoy the consumer demand which existed for the roofing. Competition with similar products was keen, and profits in these classifications of merchandise were meager. Pipe covering, in particular, was subject to price competition because it was manufactured by numerous small companies.

In 1921 the total sales of the Cardiff Roofing Company were approximately \$5,000,000; sales of the established style pipe covering were \$50,000. Forty per cent of this pipe covering was sold to about 25 wholesalers, 40% to approximately 500 steam-fitters, and 20% directly to manufacturers for use in their plants. Quotations to each type of purchaser differed. The company desired to sell from \$50,000 to \$75,000 of the

improved pipe covering in 1922 and about \$125,000 of it in 1923.

The wholesalers of plumbing supplies carried the products of the Cardiff Manufacturing Company, but frequently their stocks of pipe covering were incomplete. It was desirable that they should be required to maintain complete stocks of the improved pipe covering, in order that prompt deliveries could be made. If distribution were confined to the wholesalers, all orders taken by the company's salesmen were to be sent to the wholesaler on the company's list designated by the purchaser. The price at which the improved pipe covering was to sell was 20% higher than that of the ordinary type. The list price for the 1½-inch size was 33 cents per foot. Trade practice was to quote one list price for each size and to vary the discounts according to the material and size of order. Wholesalers were to secure a 76% trade discount from list on carload shipments. They were to allow steam-fitters a discount of 60% and 10%; steam-fitters would retail the product at 45% or 50% discount.

If the company continued to sell to wholesalers, steam-fitters, and industrial users, it was not likely to incur the risk of decreasing sales below \$50,000. Its salesmen were accustomed to this method of distribution and were acquainted with retailers and consumers.

A decision to distribute the product through plumbing wholesalers exclusively would not reduce the number of salesmen employed by the company. The relationship of the salesmen with retailers and industrial users would be continued as previously, except that the distribution of the improved type of pipe covering would be through wholesalers instead of directly to the retailers or industrial users. The majority of the retailers in this trade in 1922 formerly were plumbers who had launched into the retail business for themselves. They were not experienced in operating retail stores; they did not collect their accounts receivable promptly, and, consequently, paid their invoices slowly. The Cardiff Roofing Company had sustained losses frequently from these retailers. They did not carry complete stocks and purchased only in limited quantities. They were impatient about shipping delays, which occurred frequently when the product was sent from the central warehouse.

The management of the Cardiff Roofing Company believed

that the interest of the wholesalers could be secured by giving them the orders which the company's salesmen received from steam-fitters and industrial users. The national advertising which the Cardiff Manufacturing Company was to undertake should create a demand for the trade-marked products. The Cardiff Roofing Company had sustained few losses from bad debts from wholesalers. The wholesalers, furthermore, could fill steam-fitters' orders quickly from their stocks.

It might be difficult, however, to convince the wholesalers to distribute the improved product because it was to sell at a price 20% higher than competing products.

The plan to distribute the product through 25 wholesalers was adopted. Although difficulty was encountered in obtaining the cooperation of several wholesalers who had been selected, in 1922, sales were \$60,000; in 1923 they were \$126,000. An investigation of the sales at the end of 1923 showed that the company received more repeat orders from wholesalers than it formerly had obtained. The plan appeared successful to the Cardiff Roofing Company.

78. CENTURY HARDWARE COMPANY¹

COOPERATIVE WHOLESALE COMPANY. Several hardware retailers in one locality organized the company as a wholesale cooperative institution. No salesmen were employed by the company, which expected retailers to place orders with it of their own accord.

PATRONAGE MOTIVES. At first, the company relied upon low prices alone as sales inducements, but subsequently, emphasized both low prices and satisfactory service.

EMPLOYMENT OF SALESMEN TO MEET COMPETITION. After several unsuccessful plans, the Century Hardware Company decided to employ three salesmen to compete with other wholesalers' salesmen by soliciting orders from members.

The Century Hardware Company was formed in 1910 as a wholesale cooperative institution with a membership of 26 hardware retailers in and about the city where it was located. Competition with other wholesale firms for the orders of the retail members brought up continual problems in respect of price policies and sales methods.

¹ Fictitious name used for purpose of disguise.

Under the terms of its organization, each member was to pay a service charge of \$600 annually. An additional expense fee of 1% of the cost price was charged on each order placed by the Century Hardware Company with a manufacturer for shipment directly to a member retailer, and a charge of 5% of the manufacturer's cost price was added for each order filled by the Century Hardware Company from its warehouses. No salesmen were employed by the company; hence the responsibility lay upon the individual members to order merchandise from the company.

This original plan proved to be unsatisfactory, because its financial success was dependent upon the estimate made at the beginning of each year as to the sales and expenses for that year. The basis for each estimate was the actual operating cost for the year preceding, but because of fluctuating business conditions and expenses, the estimates never were accurate. Rising costs made necessary an annual assessment on the members to offset the amount by which the company's expenses exceeded the estimated revenues.

In spite of this difficulty, however, by 1913 the company had increased its membership to 102 firms within a radius of 250 miles. A change in the system of charges was made at that time. The members were divided into three classes, according to volume of purchases. Each Class A member contributed an original investment of \$2,000 upon becoming a member, or was assessed that amount if he already belonged to the association. In addition this class paid, as before, a charge of 1% on all direct shipments from the manufacturer and a charge of 5% on all merchandise handled through the Century Hardware Company's warehouse. An original investment of \$500 was required of each Class B member. For this class the charges on direct shipments were raised to 2½% and on all orders filled from the warehouse to 7½%. If at any time the yearly purchases of a Class B member exceeded \$10,000, the firm entered Class A and had to increase the amount of its investment to \$2,000, but received the benefit of the lower charges on its purchases. Each Class C member made an investment of \$100. There were no predetermined rates on which goods should be resold to firms in this class. The amount of the charge was left to the manager's discretion.

For several years after the installation of this plan, the hardware industry enjoyed a period of prosperity which enabled the Century Hardware Company through rising inventory values to offset what should have appeared on the books as an actual operating deficit. When prices declined, however, the company soon found that the payments made by members were inadequate to cover the expenses incurred. In addition, no reserve or surplus had been built up to allow for declining inventory values. A further change evidently was necessary.

In the fall of 1920 a new manager was appointed, and the company determined to appeal to its members for orders on the ground of a combination of service and price rather than on that of price alone. Accordingly, the prices charged to all members on goods bought through the company were, as nearly as possible, the same as those charged by competitors. Each member was required to invest \$500 in the common stock of the company. An additional amount might be invested by any member, but such an additional investment was in 6% preferred stock, having no voting rights.

Under this system, the returns to the members were determined in the following manner: As before, a charge of 1% was levied to cover expenses of direct shipments. A record was kept of each customer's account. At the end of each year the company ascertained the total operating expense and determined the operating expense ratio. On each customer's account was listed the gross margin to the company on each individual sale, and from these entries the gross margin on the entire sales to each member during the year was determined. The member received from the company the difference between the gross margin on his business and the amount of expense which was allocated to him for handling his purchases.

If the total sales of the company were \$1,000,000, for example, \$500,000 in direct shipments and \$500,000 in goods delivered from the company's warehouse, and the total expenses of the company for the year \$100,000, the total charges to all members for direct sales were 1% of \$500,000, or \$5,000. This amount was charged directly to the customers' accounts. The remainder of the total expense, \$95,000, was 19% of the warehouse sales. Hence, if a customer's warehouse purchases for the year amounted

to \$10,000, the charge for operating that account was \$1,900 plus the charges for direct shipments. If the books of the company showed that the charges on direct shipments were \$50 and that the gross margin on that customer's account had amounted to \$2,200, the customer received \$250 as his share of the profits of the company. Under this plan the membership grew to 160.

Soon after the installation of the new system, it was brought to the attention of the manager that there had been a decrease in the purchases by members located in the large cities where there was easy access to the services of wholesale merchants. These members constituted in numbers only about one-fifth of the members of the company, but the annual amount of their purchases previously had been approximately 50% of the total.

The manager learned that members had been willing to purchase from the company, despite the inconvenience of ordering by mail or telephone, when the actually lower prices obtainable had been the incentive. When the appeal, however, was the dividend to be paid to a customer at the end of the year according to the size of his total purchases, the amount of the saving was not sufficiently apparent to numerous members to induce them to send their orders to the Century Hardware Company, rather than to give them to the salesmen representing the nearby wholesalers. Those firms could make immediate delivery and occasionally offered substantial discounts on individual articles. An immediate discount was more effective than the expectation of future dividends.

The manager made a tour of the district and attempted to show the members that if reductions in price were to be effected, the member retailers themselves would have to assume some of the functions of a wholesaler, particularly the tasks otherwise performed by wholesalers' salesmen. He stated that if each member would realize the company's ability to supply him with goods fully as economically as any wholesaler and would buy accordingly as great a portion of his merchandise as possible through the Century Hardware Company, the company would be able to return to each member a substantial amount in dividends. If the members, however, were unwilling to perform this service for themselves, by utilizing the price lists sent out by the Century Hardware Company and sending in their orders by mail or tele-

phone, the organization could not continue long to operate in its existing form.

The manager asked for the opinion of various members as to the best method of carrying on the operations of the company. The suggestions received were divided into three main groups: first, those which favored a return to the basis of selling at manufacturer's cost plus a service charge for handling, the system in use before the last change; second, those which favored a retention of the existing system but with a campaign for educating the members to realize the importance of their full cooperation; third, those which recommended an assumption by the company of still more wholesale functions through maintaining a sales force which should visit the members continually and give the personal service previously lacking. The manager himself decided that it was this absence of personal contact which kept the company from being wholly successful, and that the wholesalers whose salesmen were in constant touch with the retailers had a selling advantage that could not be met except by the use of similar methods.

To meet the competition, the Century Hardware Company decided that it must use the sales practices of wholesale merchants while retaining the policy of annual dividends to members. Consequently, three salesmen were employed to call upon the members of the organization frequently. As a result, purchases, especially by city members, increased more than sufficiently to meet the expense involved, and the company contemplated further additions to the sales force, in order to cover the country districts more frequently.

79. MENNEN COMPANY V. FEDERAL TRADE COMMISSION¹

CLASSIFICATION OF CUSTOMERS. The Mennen Company manufactured and sold toilet articles in interstate commerce. It classified its customers as "wholesalers" or "retailers," and allowed larger discounts to "wholesalers," even though "retailers" purchased merchandise of the same quantity and quality.

COOPERATIVE BUYING ASSOCIATIONS. Cooperative buying associations were classified by the company as "retailers."

¹Circuit Court of Appeals, Second Circuit. Decided March 13, 1923. 288 Fed. 774.

METHOD OF COMPETITION IN INTERSTATE COMMERCE. The Federal Trade Commission held that the company's plan of classifying customers and thereby allowing differential discounts unduly hindered competition among distributors of the company's products and was an unfair method of competition. The Circuit Court of Appeals, Second Circuit, decided that the Mennen Company was not shown to have practiced unfair methods of competition in commerce. The Federal Trade Commission's order, therefore, was reversed.¹

(1923)

On March 3, 1922, the Federal Trade Commission, after investigations and hearings, decided² that the Mennen Company had adopted a discount policy which was an unfair method of competition in interstate commerce.

In the findings of the Federal Trade Commission, the Mennen Company was stated to be a corporation operating under the laws of the State of New York; its principal office was at Newark, New Jersey. The company manufactured talcum powder, tooth paste, shaving soap, and other toilet articles, which it sold in interstate commerce. Prior to January, 1917, the company allowed the same discounts and the same prices to all customers who bought the company's products in identical quantities; the quantity purchased was the only basis for discrimination between customers as to discounts and prices. After about January 1, 1917, however, the Mennen Company adopted a new plan for the allowance of trade discounts and classified its customers into groups.

The Mennen Company classified as "retailers" cooperative and mutual corporations, organized as corporate entities, which bought from manufacturers or importers in wholesale quantities, maintained stocks of manufacturers' products, and distributed the products in wholesale quantities to retailers. The corporations sold neither at retail nor to ultimate consumers. These "retailers" numbered about 50. The growth of such cooperative corporations had been rapid and extensive, and in 1922 they were distributing a substantial percentage of all the drugs and kindred products made in the United States.

The cooperative and mutual corporations classified as "re-

¹Headnote by Bureau of Business Research.

²*Findings and Orders of the Federal Trade Commission*, Vol. IV, p. 258 (Docket 606, March 3, 1922.)

tailers" originated through efforts of small retailers to find some means of purchasing products at prices which would enable them to compete with larger retail firms which obtained low prices by purchasing in large quantities. The cooperative corporations offered wholesale distributing service to retail customers at cost and were stated to have reduced operating expenses by substituting membership or permanent sales arrangements, telephone calls, circulars, and catalogs, for personal solicitation; by securing high rates of stock-turn, varying from 5 to 20 times per year; by doing business on cash or short-time credit terms; and by having few salaried officers. These corporations either sold to customers at cost prices, thus passing on to them all lower prices and higher discounts secured, or gave to customers some species of dividend or profit participation at the end of fixed periods. Several of the cooperative companies also employed a few traveling salesmen.

The classification "jobbers" or "wholesalers" included about 275 customers of the Mennen Company; these customers controlled most of the company's distributing trade. They usually demanded of retailers and manufacturers a profit for wholesale distribution service in addition to the actual cost of such service. The "jobbers" or "wholesalers" had no activity in common, relevant to their classification as "jobbers" or "wholesalers," in the ordinary acceptation of the terms, except in purchasing products in wholesale quantities and distributing them in wholesale quantities to retail merchants.

From January 1, 1917, to January 1, 1920, the Mennen Company discriminated in prices, in varying amounts, in favor of the "jobbers" or "wholesalers." From January 1, 1920, until March 3, 1922, the discrimination continued, but at fixed rates of discount. The company allowed to "jobbers" or "wholesalers," when selling in quantities of 10 gross or more, a trade discount of 10% and 5% from its list prices, and a cash discount of 3%; while to its customers classified as "retailers," when selling to them in quantities of 10 gross or more, it gave a trade discount of 10% from its list prices, and a cash discount of 5%. Since the list prices were the same for both classifications, the discount terms resulted in a price discrimination between the company's customers buying like quantities of the same commodities.

It was stated that this policy was adopted after protests of the National Wholesale Druggists' Association against the Mennen Company's policy practiced prior to January 1, 1917; that the new policy was approved by the "wholesalers" and served as a basis for an understanding between the Mennen Company and the "jobbers" or "wholesalers" that the latter class should make more vigorous efforts to sell the Mennen Company's products than those of other manufacturers who refused to follow a similar policy of discrimination. In the entire drug and sundry trade in the United States, however, less than six manufacturers discriminated in price, when quantity and quality were the same, in favor of the class of purchasers designated by the Mennen Company as "jobbers," as against cooperative or mutual corporations which sold exclusively at wholesale to retailers.

The company's products were uniform in grade and quality, and were distributed, at wholesale or at retail, not only through drug merchants and drug stores, but also through general stores, department stores, grocery stores, hardware stores, and other outlets. The company prepaid transportation charges on its products, and did not vary its prices with localities. There was no evidence in the proceeding to show that it was more expensive for the Mennen Company to sell to "retailers" than to "wholesalers" or "jobbers."

The Federal Trade Commission decided that the result of the discrimination in price between purchasers of the Mennen Company's products for their use, consumption, and resale within the United States, might be substantially to lessen competition in the sale and distribution of respondents' products, or between distributors thereof:

The Federal Trade Commission entered the following order to cease and desist:

It Is Now Ordered, that the respondent, the Mennen Company, its officers and agents and employees, do Cease and Desist from discriminating in net selling prices, by any method or device, between purchasers of the same grade, quality or quantity of commodities, upon the basis of a classification of its customers as "jobbers," "wholesalers," or "retailers," or any similar classification which relates to the customers' form of organization, business policy, business methods, or to the business of the customers' membership or shareholders, in any transaction in, or directly affecting interstate commerce, in the distribution of its products:

Provided, that nothing herein contained shall prevent discrimination in prices between purchasers of commodities on account of differences in grade, quality, or quantity of the commodity sold, or that makes only due allowance for differences in the cost of sale or transportation, or discrimination in prices in the same or different communities made in good faith to meet competition, or the selection of customers in good faith and not in restraint of trade.

The Mennen Company then petitioned the Circuit Court of Appeals, Second Circuit, to review the order of the Federal Trade Commission. The opinion of the Circuit Court, expressed by Judge Rogers, was as follows:

The transactions complained of are transactions in interstate commerce, and the acts with which the respondent is charged are done in the course of such commerce. The practices in which the respondent is engaged as charged in the complaint are admitted by it in its answer, but it denies that those practices tend unduly to hinder competition, or that they constitute an unfair method of competition in commerce, or amount to a restraint of trade.

Two acts of Congress are herein involved. The Federal Trade Commission Act, being the act of September 26, 1914,¹ which provides in section 5² "that unfair methods of competition in commerce (i. e. interstate commerce) are hereby declared unlawful," and the Clayton Act, being the act of October 15, 1914, which was passed to supplement existing laws against unlawful restraints and monopolies,³ and which provides in section 2⁴ as follows:

That it shall be unlawful for any person engaged in commerce, in the course of such commerce, either directly or indirectly to discriminate in price between different purchasers of commodities, which commodities are sold for use, consumption, or resale within the United States or any territory thereof or the District of Columbia or any insular possession or other place under the jurisdiction of the United States, where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly in any line of commerce: Provided, that nothing herein contained shall prevent discrimination in price between purchasers of commodities on account of differences in the grade, quality, or quantity of the commodity sold, or that makes only due allowance for difference in the cost of selling or transportation, or discrimination in price in the same or different communities made in good faith to meet competition: And provided further, that nothing herein contained shall prevent persons engaged in selling goods, wares, or merchandise in commerce from selecting their own customers in bona-fide transactions and not in restraint of trade.

¹ 38 Stat. 717, 724.

² Comp. St. Section 8836e.

³ 38 Stat. 730.

⁴ Comp. St. Section 8835b.

This section of the Clayton Act provides in substance that it shall be unlawful for any person engaged in interstate or foreign commerce to discriminate in price between different purchasers of commodities in transactions within the United States or under its jurisdiction "where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly in any line of commerce."

Before considering the provision of Section 2 of the Clayton Act, we find it necessary to consider the Federal Trade Commission Act which lies at the basis of this entire proceeding.

The Federal Trade Commission Act having declared that "unfair methods of competition in commerce" are unlawful, and created a Federal Trade Commission, empowered and directed it to prevent persons, partnerships, or corporations except banks, and common carriers subject to the acts to regulate commerce, "from using unfair methods of competition in commerce." And unless a person, partnership, or corporation is engaged, directly or indirectly, in using "unfair methods of competition" the Commission has no authority whatever to proceed under the act.

We are, therefore, confronted with the question as to what is meant by the words "unfair methods of competition in commerce" as used in the act. That question was before the Supreme Court in 1919 in *Federal Trade Commission v. Gratz*.¹ That case went up from this court² and affirmed the conclusion at which we arrived. The defendants were partners and were engaged in selling ties and bagging for cotton bales. They sold principally to jobbers and dealers who resold the same to retailers, cotton ginnerers, and farmers. For more than a year they had refused to sell any such ties unless the prospective purchasers would also buy from them the bagging to be used with the number of ties proposed to be bought. This was held plainly insufficient to show an unfair method of competition. In the opinion, which was written by Mr. Justice McReynolds, the court said:

The words "unfair method of competition" are not defined by the statute and their exact meaning is in dispute. It is for the courts, not the commission, ultimately to determine as matter of law what they include. They are clearly inapplicable to practices never heretofore regarded as opposed to good morals because characterized by deception, bad faith, fraud or oppression, or as against public policy because of their dangerous tendency unduly to hinder competition or create monopoly. The act was certainly not intended to fetter free and fair competition as commonly understood and practiced by honorable opponents in trade. * * *

The complaint contains no intimation that Warren, Jones & Gratz did not properly obtain their ties and bagging as merchants usually do; the amount controlled by them is not stated; nor is it alleged that they held a monopoly of either ties or bagging or had

¹ 253 U. S. 421, 40 Sup. Ct. 572, 64 L. Ed. 993.

² 258 Fed. 314, 169 C. C. A. 330, 11 A. L. R. 793.

ability, purpose or intent to acquire one. So far as appears, acting independently, they undertook to sell their lawfully acquired property in the ordinary course, without deception, misrepresentation, or oppression, and at fair prices, to purchasers willing to take it upon terms openly announced.

In this case, as in the Gratz case, the complaint contains no intimation that the Mennen Company has any monopoly of the business of manufacturing and selling toilet articles or that it has the ability or intent to acquire one. So far as appears the Mennen Company, acting independently, has undertaken to sell its own products in the ordinary course without deception, misrepresentation, or oppression, and at fair prices, to purchasers willing to take them upon terms openly announced.

In this case, as in the Gratz case, nothing is alleged which would justify the conclusion that the public suffered injury or that competitors had reasonable ground for complaint. The allegation that its practice of varying discounts tended unduly to hinder competition between distributors of respondent's products to retailers or directly to the consuming public is a pleader's conclusion. The acts complained of in this case are not those which have heretofore been regarded as "opposed to good morals because characterized by deception, bad faith, fraud or oppression, or as against public policy because of their dangerous tendency unduly to hinder competition or create monopoly." And as said in the Gratz case:

If real competition is to continue, the right of the individual to exercise reasonable discretion in respect of his own business methods must be preserved.

The Clayton bill, as originally introduced, did not contain the words "where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly in any line of commerce," now found in section 2, but contained the words "with the purpose or intent thereby to destroy or wrongfully injure the business of a competitor, of either such purchaser or seller."

The record filed in this court shows no contention by the commission that the practices complained of have lessened competition as between the Mennen Company and its competitors, but it shows at the most that the practices have decreased competition among the Mennen Company's customers, or those desiring to become such. And it is said that if the phraseology above quoted as originally contained in the bill had been retained therein upon final passage instead of the phraseology, likewise above quoted, which was substituted therefor, there might be just ground for the claim that the Clayton Act proscribes practices which injure competition among the customers of the manufacturer, and not merely competition between such manufacturer and his competitors. But the elimination of the phraseology contained in the bill as originally reported and the substitution therefor of the phraseology in the form in which the bill was finally enacted strongly

indicates that Congress did not have in contemplation the former character of competition but only the latter.

In the phraseology of the bill as originally reported the intention was unmistakably expressed that it was intended to protect by its prohibitions both kinds of competition, competition between the manufacturer and his competitors, as well as competition between customers of the manufacturer. The act as reported prohibited acts "with the purpose or intent to thereby destroy or wrongfully injure the business of a competitor, of either such purchaser or seller."

We have recently had occasion to point out that in the case of an ambiguous or obscure statute the intent of Congress may be gathered from statements in reports of committees having the legislation in charge in either House of Congress.¹ And statements made on the floor of either House by the committee in charge of the bill in the course of its passage may in like manner be considered.²

It is a matter of common knowledge that prior to the enactment of the Clayton Act a practice had prevailed among large corporations of lowering the prices asked for their products in a particular locality in which their competitors were operating for the purpose of driving a rival out of business. Such lowering of prices was maintained within the particular locality while the normal or higher prices were maintained in the rest of the country; and this practice was continued until the smaller rival was driven out of business, whereupon the prices in that locality would be put back to the normal level maintained in the rest of the country. The Clayton Act was aimed at that evil. This appears from the report of the Judiciary Committee of the House of Representatives from which we quote as follows:

Section 2 of the bill is intended to prevent unfair discriminations. It is expressly designed with the view of correcting and forbidding a common and wide-spread unfair trade practice whereby certain great corporations and also certain smaller concerns which seek to secure a monopoly in trade and commerce by aping the methods of the great corporations, have heretofore endeavored to destroy competition and render unprofitable the business of competitors by selling their goods, wares, and merchandise at a less price in the particular communities where their rivals are engaged in business than at other places throughout the country. * * *

The necessity for legislation to prevent unfair discriminations in prices with a view of destroying competition needs little argument to sustain the wisdom of it. In the past it has been a most common practice of great and powerful combinations engaged in commerce—notably the Standard Oil Company, the American Tobacco Company, and others of less notoriety, but of great influences—to lower

¹ *U. S. ex rel. Fazio v. Tod* (C. C. A.) 285 Fed. 847, decided November 13, 1922.

² *Duplex Printing Press Co. v. Deering*, 254 U. S. 443, 475, 41 Sup. Ct. 172; 65 L. Ed. 349, 16 A. L. R. 196.

prices of their commodities, oftentimes below the cost of production in certain communities and sections where they had competition, with the intent to destroy and make unprofitable the business of their competitors, and with the ultimate purpose in view of thereby acquiring a monopoly in the particular locality or section in which the discriminating price is made. * * *

In seeking to enact section 2 into law we are not dealing with an imaginary evil or against ancient practices long since abandoned, but are attempting to deal with a real, existing, wide-spread, unfair and unjust trade practice that ought at once to be prohibited in so far as it is within the power of Congress to deal with the subject.

There is nothing in the report of the committee which shows that in reporting the bill the committee had in mind anything more than the suppression of the evil above referred to.

This substitution in the final stages of the Clayton bill of the clause to which we have referred plainly indicates the intent of Congress to exclude from the operation of the section mere competition among "purchasers" from the "seller" or "person" who allowed or withheld the discount and to include therein only competition between such "seller" or "person" and the latter's own competitors. It was the latter class of competition and not the former which had been "the common practice of great and powerful combinations engaged in commerce" to which the committee in its report referred. And there is nothing in the report of the Judiciary Committee, of either House, or in anything said on the floor of either House by those in charge of the bill, which indicates or suggests any such interpretation which the Commission in this case has placed upon the act.

What the Mennen Company had done was to allow to "wholesalers" who purchased a fixed quantity of their products a certain rate of discounts while to the "retailers" who purchased the same quantities it denied the discount rates allowed to the "wholesalers." This does not indicate any purpose on the part of the Mennen Company to create or maintain a monopoly. The company is engaged in an entirely private business, and it has a right freely to exercise its own independent discretion as to whether it will sell to "wholesalers" only or whether it will sell to both "wholesalers" and "retailers," and if it decides to sell to both it has a right to determine whether or not it will sell to the "retailers" on the same terms it sells to the "wholesalers." It may announce in advance the circumstances, that is, the terms, under which it will sell or refuse to sell. In *United States v. Colgate & Company*,¹ the Supreme Court declared that—

In the absence of any purpose to create or maintain a monopoly, the act does not restrict the long recognized right of trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will

¹ 250 U. S. 300, 307, 39 Sup. Ct. 465, 468 (63 L. Ed. 992, 7 A. L. R. 443)

deal. And, of course, he may announce in advance the circumstances under which he will refuse to sell. "The trader or manufacturer, on the other hand, carries on an entirely private business, and may sell to whom he pleases. A retail dealer has the unquestioned right to stop dealing with the wholesaler for reasons sufficient to himself, and may do so because he thinks such dealer is acting unfairly in trying to undermine his trade."¹

In the Colgate case the court sustained the right of a manufacturer engaged in a private business to announce in advance the prices at which his goods may be resold and his right to refuse to deal with wholesalers or retailers who do not conform to such prices. As subsequently explained by the court, that case was decided upon the ground that the manufacturer has an undoubted right to specify resale prices and to refuse to deal with any one who failed to maintain the same. It did not appear that the Colgate Company had undertaken to enter into any agreements, express or implied, which undertook to obligate vendees to observe specified resale prices. And in the case now before the court it does not appear and is not alleged that the Mennen Company ever undertook to fix the prices at which its products were to be resold by those who purchased from it.

In *Federal Trade Commission v. Beech-Nut Packing Company*,² the subject was gone into very fully, and the Colgate case was explained and the reason for that decision was clearly stated, and it was made evident that if the Colgate Company had undertaken by agreements, express or implied, to obligate those to whom it sold its products to observe specified resale prices a different decision would have been rendered. In the Beech-Nut case the right to fix the prices at which the manufacturer will sell is again fully recognized. But the course which the Beech-Nut Company had adopted was condemned because of the method it pursued to control the resale prices. The difficulty was that the manufacturer had adopted and was enforcing a system of fixing and maintaining certain specified standard prices at which its products should be resold by purchasers thereof with the purpose of eliminating competition in prices among all jobbers engaged in handling the products manufactured by the company. And the court, after reviewing its previous decisions,³ said:

By these decisions it is settled that in prosecutions under the Sherman Act a trader is not guilty of violating its terms who simply refuses to sell to others, and he may withhold his goods from those who will not sell them at the prices which he fixes for their resale. He may not, consistently with the act, go beyond the exercise of

¹ *United States v. Trans-Missouri Freight Association*, 166 U. S. 290, 320.

² 257 U. S. 441, 42 Sup. Ct. 150, 66 L. Ed. 307, 19 A. L. R. 882.

³ 250 U. S. 300, 39 Sup. Ct. 465, 63 L. Ed. 992, 7 A. L. R. 443; *United States v. Schrader's Sons, Inc.*, 252 U. S. 85, 40 Sup. Ct. 251, 64 L. Ed. 471; *Frey & Son v. Cudahy Packing Co.*, 256 U. S. 208, 41 Sup. Ct. 451, 65 L. Ed. 892.

this right, and by contracts or combinations, express or implied, unduly hinder or obstruct the free and natural flow of commerce in the channels of interstate trade.

In *Sears, Roebuck & Company v. Federal Trade Commission*,¹ the Circuit Court of Appeals in the Seventh Circuit declared, in speaking of the Federal Trade Commission Act of September 26, 1914:²

We find in the statute no intent on the part of Congress, even if it has the power, to restrain an owner of property from selling it at any price that is acceptable to him or from giving it away.

And in *Great Atlantic & Pacific Tea Company v. Cream of Wheat Company*,³ we declared in our opinion written by Judge Lacombe:

Before the Sherman Act it was the law that a trader might reject the offer of a proposing buyer, for any reason that appealed to him; it might be because he did not like the other's business methods, or because he had some personal difference with him, political, racial, or social. That was purely his own affair, with which nobody else had any concern. Neither the Sherman Act, nor any decision of the Supreme Court construing the same, nor the Clayton Act, has changed the law in this particular. We have not yet reached the stage where the selection of a trader's customers is made for him by the government.

In accordance with these opinions we have no doubt that the Mennen Company had the right to refuse to sell to retailers at all, and if it chose to sell to them that it had the right to fix the price at which it would sell to them, and that it was under no obligation to sell to them at the same price it sold to the wholesalers. It did not discriminate as between retailers but sold to all retailers on one and the same scale of prices. And it did not discriminate as between wholesalers but sold to all wholesalers on one and the same scale of prices. There is nothing unfair in declining to sell to retailers on the same scale of prices that it sold to wholesalers, even though the retailers bought or sought to buy the same quantity the wholesalers bought.

In conclusion it ought perhaps to be said that we have not been unmindful of the fact that the Mennen Company in classifying purchasers into two groups, those of wholesalers and retailers, placed in the group of retailers a class of mutual or cooperative corporations which purchased in large quantities the Mennen products. These mutual or cooperative corporations, it is admitted, consist solely of the retailers in the same line of trade; the stock being held exclusively by retailers. The fact that these individuals, admitted by the counsel for the Federal Trade Commission to be retailers, see fit for their own convenience to organize themselves into a corporation which they constitute their agent for purchasing purposes, does not change their

¹258 Fed. 307, 312, 169 C. C. A. 323, 328 (6 A. L. R. 358)

²38 St. 717, c. 311.

³227 Fed. 46, 49, 141 C. C. A. 594, 597.

character, or the character of their purchases, and convert them into wholesalers.

Whether a buyer is a wholesaler or not does not depend upon the quantity he buys. It is not the character of his buying, but the character of his selling, which marks him as a wholesaler, as this court pointed out in *Great Atlantic & Pacific Tea Company v. Cream of Wheat Company*, *supra*. A wholesaler does not sell to the ultimate consumer, but to a "jobber" or to a "retailer." The persons who constitute these mutual or cooperative concerns are buying for themselves to sell to ultimate consumers, and not to other "jobbers" or to other "retailers." The nature of the transaction herein involved is not altered by the fact that they make their purchases through the agency of their corporation. For some purposes a corporation is distinct from the members who compose it. But that distinction is a fiction of the law, and the courts disregard the fiction whenever the fiction is urged to an intent and purpose which is not within its reason and policy. And in such a case as this the fiction cannot be invoked. The important fact is that the members of the corporation are all retailers who buy for themselves to sell to the ultimate consumer. The Mennen Company is within its rights in classifying them as retailers.

The facts established by the testimony are not sufficient to constitute a violation either of the Federal Trade Commission Act or of the Clayton Act, and they do not support the commission's conclusions of law. The Mennen Company is not shown to have practiced "unfair methods of competition in commerce."

The order to cease and desist is reversed.

The Federal Trade Commission was not satisfied with the decision and petitioned the Supreme Court to review the case. The request, however, was not granted.

80. MARCH BOTTLING COMPANY¹

SEASONAL SALES. From 1900 to 1913 the company sold its bottled soft drinks and sirups to soda fountains, refreshment stands, and restaurants within a 15-mile radius. To overcome the disadvantage of seasonal fluctuations in sales, the company began, in 1913, to sell to grocers and other retailers, except chain-store companies, and to increase, through advertising, home use of its products.

SALES TO CHAIN-STORE COMPANIES. In 1920 the company decided to sell to the chain-store companies, since its preparations already were sold below the prices of competitors' products, and since an increase in total sales seemed possible.

(1920)

¹Fictitious name used for purpose of disguise.

The March Bottling Company was organized in 1900 to manufacture and bottle soft drinks. Sales at first were made primarily to local soda fountains, refreshment stands, and restaurants during the summer months. Sirup drinks were manufactured, but ginger ale was the most important product. This was bottled in quarts, pints, and splits which contained eight ounces. In 1913 the company, in order to offset the extreme seasonal fluctuations of its sales, began, through advertising, to develop use of its products in homes, and obtained distribution in grocery stores, fruit stores, and other retail stores which dispensed bottled drinks. Although emphasis in the advertising had been placed upon quality, prices were lower than those of other brands of high-grade ginger ale. Among the established customers were many high-class retail stores in which the ginger ale bottled by the March Bottling Company competed with higher-priced products.

Several bottling companies had adopted the policy of selling ginger ale to chain grocery stores which sold merchandise at cut prices. In 1920 the manager of the March Bottling Company had the problem of deciding whether or not it was advisable for that company to seek the patronage of chain stores.

In 1913 the company had sold 90,000 cases of quarts of ginger ale, 60,000 cases of pints, and 68,000 cases of splits. These, with fruit sirup drinks, made a total of 260,000 cases. In 1920 the number of cases of pints and splits sold was the same as in 1913, but sales of quarts had increased approximately 100%. This size was ordered chiefly by grocery stores. The management was convinced that the rapid growth in the sale of quarts vindicated the policy of catering to the demand for home use.

The company's sales were limited to distributors within a radius of 15 miles. Local retailers ordered only for immediate delivery; they often sold their entire supply during one day and demanded immediate delivery of another supply. The company, therefore, had to carry stock. If it was unable to make prompt deliveries, customers bought from its competitors; hence the company had to maintain delivery trucks. It had 15 trucks in active service in 1920. Three salesmen were employed to secure new customers, adjust complaints, and report the establishment of new retail stores and changes in the ownership of stores. Truck drivers were expected to secure repeat orders, and consequently had to

be selected carefully. They were retained throughout the winter months for missionary work among retailers.

Managers of the local chain-store companies stated that they could sell only splits and pints. The company's experience indicated that splits and pints were purchased for home consumption chiefly during the summer, and in lots of not more than three or four bottles at a time. Quarts, on the other hand, often were bought by the case to be kept in the home. The sales of quarts were relatively smaller in the summer than sales of the other sizes. If the ginger ale were distributed through chain stores, it seemed probable that the seasonal character of the company's sales would be intensified. Since this would increase costs, the manager desired to keep sales as uniform as possible. The chain stores might demand lower prices after they had obtained a large distribution of the company's ginger ale. It was contrary to the company's policy to grant quantity discounts or to cut prices.

A more important factor, however, in connection with the plan of selling to chain stores was the attitude of unit-store retailers who sold March ginger ale. About 25% of sales were to these retailers. A number of them had stated that if this brand of ginger ale were distributed by chain stores, they would discontinue buying it, since they believed that products sold by such organizations commonly were considered inferior in quality.

The manager of the March Bottling Company judged that total sales of the ginger ale would increase if it were placed on sale in chain stores. He did not expect an appreciable decrease in sales to the other retailers. Chain stores, with low operating expenses, undoubtedly would sell ginger ale at less than unit-store prices, but since the company's ginger ale already sold at lower prices than competitors', this would not injure its reputation.

The manager decided to sell ginger ale to chain stores. In 1924 several chain-store companies arranged for individual stores to order directly from the bottling plant rather than through the central offices. Up to that time no demand had been made for lower prices. Although these stores had begun by purchasing splits, in 1924 they were purchasing approximately 75% of their orders in quarts, of which a relatively large proportion was sold in the winter. The chain stores had reduced the retail selling price from 18 cents to 16 cents. The unit-store retailers had con-

tinued to purchase from the March Bottling Company and had reduced their prices to the same figure. Their volume of sales had increased. Sales of ginger ale to chain stores in 1924 were approximately one-fourth of total sales of the March Bottling Company.

81. PENWICK GROCERY COMPANY¹

PRODUCTS UNSUITED FOR EXCLUSIVE AGENCY. The company never had granted exclusive agencies. The company sold, at wholesale and retail, staple groceries and, under its own brand, fancy groceries. A retail store in a summer resort applied for an exclusive agency for the company's branded merchandise. Since the company's merchandise was not suited to distribution through exclusive agencies as a general policy, the company decided not to make an exception by granting this request.

The Penwick Grocery Company operated an extensive retail and wholesale grocery business in Philadelphia. It specialized in fancy groceries and imported goods sold under the Penwick brand. Staple groceries, however, comprised a substantial portion of its sales. The traveling salesmen for the wholesale department covered a territory within a 300-mile radius from Philadelphia.

The Lawton Grocery Store, located in a New Jersey town, requested an exclusive agency for Penwick goods. There were three other grocery stores in the town, but they were less attractive in appearance and had less satisfactory credit ratings than the Lawton Grocery Store. The town had a resident population of 2,200, which was increased temporarily during the summer months by the influx of more than 1,000 people from Philadelphia, New York, and other cities. These visitors were well-to-do; many of them owned cottages and summer homes in this town. There was also a large summer hotel.

The Penwick Grocery Company had sold merchandise to all four grocery stores in the past and also had sold directly to the hotel. The retail branch of the company, furthermore, shipped mail orders by express directly to consumers in this town during the summer. Other wholesale grocers in Philadelphia and New York competed for orders from the retailers and the hotel.

¹ Fictitious name used for purpose of disguise.

The Penwick Grocery Company never had granted exclusive agencies. If this request were granted, the agreement would be for an indefinite period and might be terminated at will by either party. The Penwick Grocery Company was not expected, moreover, to discontinue its sales to the hotel or to refuse the acceptance of direct-mail orders from consumers.

The Lawton Grocery Store, because of its appearance and reputation, attracted discriminating customers. If appointed an exclusive agent, the store would attempt to secure a wider distribution of Penwick brand groceries. It thus appeared to be a means of introducing the brand to the summer population, who might continue to purchase the company's products during the winter. No loss of sales to the hotel or to mail-order customers was involved, and there probably would be a slight saving to the company because of larger shipments to the store and diminished competition with other wholesalers.

Although the Lawton Grocery Store was admittedly superior to the other stores in the town, both with respect to its credit, and to its merchandising ability, the Penwick Grocery Company perceived serious objections to granting the exclusive agency request. No marked reduction in selling expense would be obtainable, because a salesman had to visit the town regularly in either case. There was certain to be a loss of sales to the other stores, with only a doubtful gain through the increased efforts of the Lawton Grocery Store. It was essential that the company maintain a large volume of sales of staple groceries, but it could not expect to retain the patronage of retailers to whom it refused to sell the Penwick brand. Customers of the other stores were not likely to change their buying habits, even in order to secure the Penwick brand of specialties. Sudden termination of the agreement, furthermore, would leave the company without adequate representation in the town.

Because the Penwick Grocery Company sought to obtain a maximum distribution of its products, it refused exclusive representation to the Lawton Grocery Store. The decision was based chiefly upon the nature of the type of merchandise that the company carried; any limitation of the customary channels of distribution would have been looked upon as likely to prove disadvantageous.

82. DEVON PHONOGRAPH COMPANY¹

LATE ENTRY INTO COMPETITIVE FIELD. The company began the manufacture and sale of fine-quality phonographs after several other phonograph companies had become well established. The retail prices of its 32 models ranged from \$125 to \$3,000. No phonograph records were made by the company. The machines were to be sold in competition with other makes in high-grade music shops and department stores.

EXCLUSIVE AGENCIES GRANTED TO WHOLESALERS. In order to maintain some degree of supervision over retail distribution and to arrange for advance orders, the company decided to grant exclusive agencies to musical instrument wholesalers who carried no other line of phonographs.

The Devon Phonograph Company, which entered the phonograph field after several other manufacturers had become well established in it, decided not to manufacture records but to restrict its activities to the production and sale of phonographs of fine quality.

An important competitor, who by means of long contracts with well-known musicians and opera singers had secured almost a monopoly in the sale of records of so-called classical music, had followed the practice of selling to numerous wholesalers without restrictions as to territory. Another manufacturer, who had specialized in records of popular music, had established a system of wholesale branches to handle records and machines in order to obtain sufficiently rapid distribution. Because its manufacturing policy differed from those of other producers, the Devon Phonograph Company determined to adopt a different plan for wholesale distribution and studied the advantages of exclusive wholesale contracts.

The Devon Phonograph Company planned to manufacture phonographs to sell at retail prices ranging from \$125 to \$3,000. Thirty-two models were to be manufactured; twenty of them were to be in period designs with hand-carved cabinets.

High-grade music shops and department stores were selected as desirable retail outlets for the Devon Phonograph Company's phonographs, and it was thought advisable to have the machines sold in competition with other phonographs in the same retail stores. Hence, no exclusive retail agencies were to be granted. The company intended to advertise in newspapers and magazines,

¹Fictitious name used for purpose of disguise.

and by billboards and electric signs, but it did not expect to undertake advertising on an extensive scale except in districts where the company had secured satisfactory distribution.

If the company had planned to make records, it would have desired to have wide wholesale distribution, but because of its plan to make only machines of fine quality, it was in position to grant exclusive wholesale agencies. Its situation seemed analogous to that of an automobile manufacturer, with a single product of high unit value. The company was of the opinion, furthermore, that it had a distinctive product which required a distinctive type of selling, and that the establishment of exclusive wholesale agencies was especially desirable for introducing the line of phonographs and for creating a reputation for them. Exclusive distributors would be assured of the entire benefits of their efforts and, therefore, would attempt more actively to secure sales than did those wholesale firms which encountered local competition when territories were not restricted. The plan also seemed to provide an effective means by which the company could control the selection of suitable retailers and secure the advantages of intensive sales efforts.

There were weaknesses, on the other hand, in the policy of granting exclusive wholesale privileges. The company risked temporary losses of sales in any territory where the distributing firm canceled the agreement. Since it was difficult to define the districts accurately, claims of encroachment were likely to be received from aggressive representatives.

Because its products were new, however, and required special introductory sales efforts, the company decided to grant exclusive wholesale agencies with specifically defined territories to wholesale distributors in various parts of the United States. It planned gradual development of the national market and the eventual appointment of not more than 40 wholesale distributors. Where possible, agreements were to be made with wholesalers of musical instruments, but other types of wholesalers were to be employed, if necessary. An exclusive agency was not to be granted to any wholesaler who carried another line of phonographs.

Prices of the phonographs were to be quoted at list figures subject to trade discounts; the list figures represented the

expected retail selling prices. The gross margin allowed to wholesalers was to be from 16% to 18% of the list price, the exact rate to be varied for the purpose of equalizing freight charges to different sections of the country. The discount to retailers was to be 40% of the list price on all phonographs selling under \$150, and 40% plus 10% on all selling above that price. Wholesale distributors were expected to carry stocks equal to at least 25% of their annual sales, and to order in approximately even quantities monthly, to eliminate seasonal fluctuations in production. As a tentative quota, each wholesale distributor was expected to equal in his district the average per capita sales of Devon phonographs throughout the country. Signed contracts on an annual basis were to be entered into with these exclusive distributors, and through them contracts were to be made with retailers. Each wholesaler must agree to seek the patronage of all satisfactorily rated music shops and department stores in his territory. In the event of a reduction in price the contemplated contract provided that the Devon Phonograph Company should allow its exclusive distributors a rebate on all machines in stock and through them extend a similar rebate to retailers on machines in their stores.

83. STANDARD FASHION COMPANY V. MAGRANE-HOUSTON COMPANY¹ *Q HBR 445*

SALES CONTRACT WITH RETAIL AGENCIES. The Standard Fashion Company manufactured and distributed patterns for women's and children's garments. It brought suit to restrain the Magrane-Houston Company, a retail dry-goods store, from violating a so-called "agency" contract made by both companies. The bill was dismissed by lower courts.

COMPETING PRODUCTS. In the contract the Magrane-Houston Company agreed not to sell competing patterns.

LESSENED COMPETITION—MONOPOLY. The Supreme Court, when petitioned, held the contract to be one of sale which tended substantially to lessen competition and to create a monopoly; the petition, consequently, was dismissed.²

(1922)

¹Supreme Court of the United States, Argued Jan. 25, 1921. Reargued Jan. 16, 1922. Decided April 10, 1922. 42 Sup. Ct. 360.

²Headnote by Bureau of Business Research.

Mr. Justice DAY delivered the opinion of the court:

Petitioner brought suit in the United States District Court for the District of Massachusetts to restrain the respondent from violating a certain contract concerning the sale of patterns for garments worn by women and children, called Standard Patterns. The suit was dismissed by the District Court and its decree was affirmed by the Circuit Court of Appeals.¹

Petitioner is a New York corporation engaged in the manufacture and distribution of patterns. Respondent conducted a retail dry-goods business at the corner of Washington Street and Temple Place in the city of Boston. On November 14, 1914, the parties entered into a contract by which the petitioner granted to the respondent an agency for the sale of Standard Patterns at respondent's store, for a term of two years from the date of the contract, and from term to term thereafter until the agreement should be terminated as thereafter provided. Petitioner agreed to sell to respondent Standard Patterns at a discount of 50%, from retail prices, with advertising matter and publications upon terms stated, and to allow respondent to return discarded patterns semiannually between January 15 and February 15, and July 15 and August 15, in exchange at nine-tenths cost for other patterns to be shipped from time to time thereafter. The contract provided that patterns returned for exchange must have been purchased from the petitioner, and must be delivered in good order to the general office of the seller in New York. Respondent agreed to purchase a substantial number of Standard fashion sheets, to purchase and keep on hand at all times, except during the period of exchange, \$1,000 value in Standard Patterns at net invoice price, and to pay petitioner for the pattern stock to be selected by it on terms of payment which are stated. Respondent agreed not to assign or transfer the agency, or to remove it from its original location, without the written consent of the petitioner, and not to sell or permit to be sold on its premises during the term of the contract any other make of patterns, and not to sell Standard Patterns except at labeled prices. Respondent agreed to permit petitioner to take account of pattern stock whenever it desired, to pay proper attention to the sale of Standard Patterns, to conserve the best interests of the agency at all times, and to reorder promptly as patterns were sold. Either party desiring to terminate the agreement was required to give the other party three months' notice in writing within thirty days after the expiration of any contract period, the agency to continue during such three months. Upon expiration of such notice respondent agreed to promptly return to petitioner all Standard Patterns, and petitioner agreed to credit respondent for the same on receipt in good order at three-fourths cost. Neglect to return the pattern stock within two weeks after the expiration of the three months' notice to relieve the petitioner from all obligation to redeem the same. It was further stipulated that in the event the business property of the respondent, or a substantial

¹259 Fed. 793, 170 C. C. A. 593.

part thereof, should be disposed of by respondent for business other than that of dry-goods or as a general department store, the respondent should have the privilege of terminating the contract by giving the petitioner due notice of such change. Two weeks after the change in the premises had been made the respondent might deliver its stock of Standard Patterns to the petitioner for repurchase under the repurchase clause of the contract.

* * *

The principal question in the case, and the one upon which the writ of certiorari was granted, involves the construction of section 3 of the Clayton Act, 38 Stats. 731 (Comp. St. Sec. 8835c). That section, so far as pertinent here, provides:

It shall be unlawful to make a sale or contract for sale of goods or fix a price charged therefor, or discount from, or rebate upon, such price, on the condition, agreement, or understanding that the lessee or purchaser thereof shall not use or deal in the goods of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce.

The contract contains an agreement that the respondent shall not sell or permit to be sold on its premises during the term of the contract any other make of patterns. It is shown that on or about July 1, 1917, the respondent discontinued the sale of the petitioner's patterns and placed on sale in its store patterns of a rival company known as the McCall Company.

It is insisted by the petitioner that the contract is not one of sale, but is one of agency or joint venture; but an analysis of the contract shows that a sale was in fact intended and made. It is provided that patterns returned for exchange must have been purchased from the petitioner. Respondent agreed to purchase a certain number of patterns. Upon expiration of the notice of termination the respondent agreed to return promptly all Standard Patterns bought under the contract. In the event of the disposition of the business property of the respondent at Washington Street and Temple Place, the respondent might deliver its stock of Standard Patterns to the petitioner for repurchase under the repurchase clause of the contract.

Full title and dominion passed to the buyer. While this contract is denominated one of agency, it is perfectly apparent that it is one of sale.¹

The contract required the purchaser not to deal in goods of competitors of the seller. It is idle to say that the covenant was limited to the premises of the purchaser, and that sales might be made by it else-

¹ *Straus et al. v. Victor Talking Machine Co.*, 243 U. S. 490, 37 Sup. Ct. 412, 61 L. Ed. 866, L. R. A. 1917E, 1196, Ann. Cas. 1918A, 955.

where. The contract should have a reasonable construction. The purchaser kept a retail store in Boston. It was not contemplated that it would make sales elsewhere. The covenant, read in the light of the circumstances in which it was made, is one by which the purchaser agreed not to sell any other make of patterns while the contract was in force. The real question is: Does the contract of sale come within the third section of the Clayton Act, because the covenant not to sell the patterns of others "may be to substantially lessen competition or tend to create a monopoly"?

The Clayton Act, as its title and the history of its enactment discloses, was intended to supplement the purpose and effect of other anti-trust legislation, principally the Sherman Act of 1890.¹ The latter act had been interpreted by this court to apply to contracts, combinations and conspiracies which unduly obstruct the free and natural flow of commerce. The construction since regarded as controlling was stated in the *Standard Oil* case, 221 U. S. 1, 58, 31 Sup. Ct. 502, 515 (55 L. Ed. 619, 34 L. R. A. (N.S.) 834. Ann. Cas. 1912D, 734), wherein this court construed the act as intended to reach combinations unduly restrictive of the flow of commerce or unduly restrictive of competition. It was said that the act embraced:

All contracts or acts which were unreasonably restrictive of competitive conditions, either from the nature or character of the contract or act or where the surrounding circumstances were such as to justify the conclusion that they had not been entered into or performed with the legitimate purpose of reasonably forwarding personal interest and developing trade, but on the contrary were of such a character as to give rise to the inference or presumption that they had been entered into or done with the intent to do wrong to the general public and to limit the right of individuals, thus restraining the free flow of commerce and tending to bring about the evils, such as enhancement of prices, which were considered to be against public policy.²

As the Sherman Act was usually administered, when a case was made out, it resulted in a decree dissolving the combination, sometimes with unsatisfactory results so far as the purpose to maintain free competition was concerned.

The Clayton Act sought to reach the agreements embraced within its sphere in their incipiency, and in the section under consideration to

¹ Comp. St. Sec. 8820-8823, 8827-8830.

² See also *United States v. American Tobacco Co.*, 221 U. S. 106, 31 Sup. Ct. 632, 55 L. Ed. 663; *United States v. St. Louis Terminal Co.*, 224 U. S. 383, 32 Sup. Ct. 507, 56 L. Ed. 810; *Standard Sanitary Mfg. Co. v. United States*, 226 U. S. 20, 33 Sup. Ct. 9, 57 L. Ed. 107; *United States v. Union Pacific R. Co.*, 226 U. S. 61, 33 Sup. Ct. 53, 57 L. Ed. 124; *United States v. Reading Co.*, 226 U. S. 324, 33 Sup. Ct. 90, 57 L. Ed. 243; *Nash v. United States*, 229 U. S. 373, 33 Sup. Ct. 780, 57 L. Ed. 1232; *Straus v. American Pub. Ass'n*, 231 U. S. 222, 34 Sup. Ct. 84, 58 L. Ed. 192, L. R. A. 1915A, 1099, Ann. Cas. 1915A, 369.

determine their legality by specific tests of its own which declared illegal contracts of sale made upon the agreement or understanding that the purchaser shall not deal in the goods of a competitor or competitors of the seller, which "may substantially lessen competition or tend to create a monopoly."

Much is said in the briefs concerning the reports of committees concerned with the enactment of this legislation, but the words of the act are plain and their meaning is apparent, without the necessity of resorting to the extraneous statements and often unsatisfactory aid of such reports.¹

Section 3 condemns sales or agreements where the effect of such sale or contract of sale "may" be to substantially lessen competition or tend to create monopoly. It thus deals with consequences to follow the making of the restrictive covenant limiting the right of the purchaser to deal in the goods of the seller only. But we do not think that the purpose in using the word "may" was to prohibit the mere possibility of the consequences described. It was intended to prevent such agreements as would under the circumstances disclosed probably lessen competition, or create an actual tendency to monopoly. That it was not intended to reach every remote lessening of competition is shown in the requirement that such lessening must be substantial.

Both courts below found that the contract interpreted in the light of circumstances surrounding the making of it was within the provisions of the Clayton Act as one which substantially lessened competition and tended to create monopoly. These courts put special stress upon the fact found that of 52,000 so-called pattern agencies in the entire country, the petitioner, or its holding company controlling it and two other pattern companies, approximately controlled two-fifths of such agencies. As the Circuit Court of Appeals, summarizing the matter, pertinently observed:

The restriction of each merchant to one pattern manufacturer must in hundreds, perhaps in thousands, of small communities amount to giving such single pattern manufacturer a monopoly of the business in such community. Even in the larger cities, to limit to a single pattern maker the pattern business of dealers most resorted to by customers whose purchases tend to give fashions their vogue, may tend to facilitate further combinations; so that the plaintiff, or some other aggressive concern, instead of controlling two-fifths, will shortly have almost, if not quite, all the pattern business.

We agree with these conclusions, and have no doubt that the contract, properly interpreted, with its restrictive covenant, brings it fairly within the section of the Clayton Act under consideration.

Affirmed.

¹See *Railroad Commission of Wisconsin et al. v. C., B. & Q. R. R. Co.* (decided February 27, 1922) 257 U. S. 563, 42 Sup. Ct. 232, 66 L. Ed. 371, and previous decisions of this court therein cited.

84. FEDERAL TRADE COMMISSION V. RAYMOND BROTHERS- CLARK COMPANY¹ 2 HBR 477

COMPETITION IN INTERSTATE COMMERCE. The Raymond Brothers-Clark Company, a wholesale grocery firm whose transactions were interstate, ceased purchasing from a manufacturer because the latter sold directly to one of the company's competitors. This competitor sold both at wholesale and at retail.

LEGAL RIGHT TO DISCONTINUE PURCHASES. The Federal Trade Commission held the company's action to be an unfair method of competition, but the United States Supreme Court decided that the company had the right to cease buying from the manufacturer, since there was no agreement with other wholesalers to do likewise.²

(1924)

Mr. Justice SANFORD delivered the opinion of the court:

This writ brings up for review a decree of the Circuit Court of Appeals which set aside an order of the Federal Trade Commission requiring the Raymond Brothers-Clark Company to desist from a method of competition held to be prohibited by the Trade Commission Act of September 26, 1914.³

By Section 5 of that act "unfair methods of competition" in interstate commerce are declared unlawful, and the commission is empowered and directed to prevent their use.

The commission, in January, 1920, issued a complaint charging the Raymond Company with acts and practices the purpose and effect of which was to cut off the supplies purchased by the Basket Stores Company, a competitor, from the T. A. Snider Preserve Company, stifle and prevent competition by the Stores Company, and interfere with the right of the Stores Company and the Snider Company to deal freely with each other in interstate commerce. The Raymond Company answered, and evidence was taken. The commission made a report, stating its findings of fact and conclusions.⁴

The material facts shown by the findings are: The Raymond Company and the Stores Company are dealers in groceries, with their principal places of business and warehouses in Nebraska. They buy groceries in wholesale quantities from manufacturers in other states, which are shipped to their warehouses and resold to customers within and outside of Nebraska. Each does an annual business of approxi-

¹Supreme Court of the United States, Argued November 27, 1923. Decided Jan. 7, 1924. 44 Sup. Ct. 162.

²Headnote by Bureau of Business Research.

³c. 311, 38 Stat. 717 (Comp. St. Sections 8836a-8836k).

⁴These findings were published in the Federal Trade Commission Decisions, *Findings, Orders and Conference Rulings of the Federal Trade Commission*, July 1, 1920, to June 30, 1921, Vol. III, pp. 295-301. [Editor's Note.]

mately \$2,500,000. The Raymond Company sells exclusively at wholesale. The Stores Company operates a chain of retail stores, but also sells at wholesale. In its wholesale trade, which constitutes about 10% of its total business, it is a competitor of the Raymond Company. The Snider Company is a manufacturer of groceries, with its office in Illinois. In September, 1918, it sold groceries to the Raymond Company, the Stores Company, and other neighboring dealers. These groceries were shipped in interstate commerce in a pool car to the Raymond Company for distribution among the several purchasers.¹ The Raymond Company, upon thus learning of the sale to the Stores Company, delayed the delivery of its portion of the groceries, to the hindrance and obstruction of its business, and wrote to the Snider Company, protesting against the sale direct to the Stores Company and asking for the allowance of the jobber's profit on such sale.² Later, the Raymond Company declined to pay the Snider Company until this commission was allowed, and threatened to cease business with it and return all goods purchased from it then in stock, unless it allowed this commission and discontinued direct sales to the Stores Company; and, thereafter, an attempted settlement of the controversy having failed, the Raymond Company ceased to purchase from the Snider Company.

The conclusions of the commission were: That the conduct of the Raymond Company tended to, and did, unduly hinder competition between the Stores Company and others similarly engaged in business; that the purpose of the Raymond Company was also to press the Snider Company to a selection of customers, in restraint of its trade, and to restrict the Stores Company in the purchase of commodities in competition with other buyers; and that the conduct of the Raymond Company tended to the accomplishment of this purpose.

The commission thereupon adjudged that the method of competition in question was prohibited by the Act, and ordered the Raymond Company to desist from directly or indirectly—hindering or preventing any person, firm, or corporation in or from the purchase of groceries or like commodities direct from the manufacturers or producers, in interstate commerce, or attempting so to do; hindering or preventing any manufacturer, producer, or dealer in groceries and like commodities in or from the selection of customers in interstate commerce, or attempting so to do; and influencing or attempting to influence any such manufacturer, producer, or dealer not to accept as a customer any firm or corporation with which, in the exercise of a free judgment, he has, or may desire to have, such relationship.

Upon a petition of the Raymond Company for review of this order, the Circuit Court of Appeals held that the findings of fact did not show

¹The facts that the Snider Company's office is in Illinois and that it shipped these groceries in interstate commerce, are not stated in the findings; but they otherwise appear in the record and are not disputed.

²It otherwise appears from the record that the ground of its protest and claims was its assertion that the Stores Company was "nothing but a retail store."

an unfair method of competition by the Raymond Company as to the Stores Company or others similarly engaged in business. The court said:

There is no finding that petitioner combined with any other person or corporation for the purpose of affecting the trade of the Basket Stores Company, or others similarly engaged in business. So far as petitioner itself is concerned, it had the positive and lawful right to select any particular merchandise which it wished to purchase, and to select any person or corporation from whom it might wish to make its purchase. The petitioner had the right to do this for any reason satisfactory to it, or for no reason at all. It had a right to announce its reason without fear of subjecting itself to liability of any kind. It also had the unquestioned right to discontinue dealing with any manufacturer, * * * for any reason satisfactory to itself or for no reason at all. Any incidental result which might occur by reason of petitioner exercising a lawful right cannot be charged against petitioner as an unfair method of competition.

The decree setting aside the order of the commission was thereupon entered.

We pass, without determination, the preliminary contentions of the Raymond Company, that the findings of the commission are not supported by the testimony, in many respects,¹ and that, as both the complaint and the findings of fact relate merely to a controversy between it and a single manufacturer, over a single shipment of merchandise, the broad order of the commission, commanding it to desist from all acts of like character with "the entire commercial world" is improvident, and cannot be sustained.²

The gravamen of the contention in behalf of the commission is that the conduct of the Raymond Company, acting alone and not in combination with others, in threatening the withdrawal of patronage from the Snider Company if it continued to sell goods to the Stores Company, constituted an unfair method of competition oppressive in its

¹The Raymond Company insists that the testimony shows, among other things, that it did not intentionally delay the delivery of the groceries to the Stores Company; that the Stores Company is not its competitor in the wholesale business, but engaged in the retail business, selling groceries to consumers in competition with other retail dealers to whom the Raymond Company sells at wholesale; and that it did not threaten the Snider Company with the withdrawal of patronage if it continued to sell to the Stores Company, but merely expressed surprise at the change made by the Snider Company from its former policy of selling only to wholesalers, and declared that it would not have made its own purchases had it known of this change.

²The Circuit Court of Appeals stated, in the outset of its opinion, that, in any event, as the proceeding related to the use of an unfair method of competition against the Stores Company, the order of the commission, being "as broad as the business world," would have to be modified, if sustained in any particular. See *Federal Trade Comm. v. Gratz*, 253 U. S. 421, 40 Sup. Ct. 572, 64 L. Ed. 993, and *Western Sugar Refining Co. v. Trade Comm.* (C. C. A.) 275 Fed. 725, 732.

character, unlawful when tested by common law criteria, and having a dangerous tendency unduly to hinder competition.

The words "unfair method of competition," as used in the act, "are clearly inapplicable to practices never heretofore regarded as opposed to good morals because characterized by deception, bad faith, fraud or oppression, or as against public policy because of their dangerous tendency unduly to hinder competition or create monopoly."¹ If real competition is to continue, the right of the individual to exercise reasonable discretion in respect of his own business methods, must be preserved.²

The present case discloses no elements of monopoly or oppression. So far as appears the Raymond Company has no dominant control of the grocery trade, and competition between it and the Stores Company is on equal terms. Nor do we find that the threatened withdrawal of its trade from the Snider Company was unlawful at the common law, or had any dangerous tendency unduly to hinder competition.

It is the right, "long recognized," of a trader engaged in any entirely private business, "freely to exercise his own independent discretion as to the parties with whom he will deal."³ Thus a retail dealer "has the unquestioned right to stop dealing with a wholesaler for reasons satisfactory to himself."⁴ He may lawfully make a fixed rule of conduct not to buy from a producer or manufacturer who sells to consumers in competition with himself.⁵ Or he may stop dealing with a wholesaler who he thinks is acting unfairly in trying to undermine his trade.⁶ Likewise a wholesale dealer has the right to stop dealing with a manufacturer "for reasons sufficient to himself." And he may do so because he thinks such manufacturer is undermining his trade by selling either to a competing wholesaler or to a retailer competing with his own customers. Such other wholesaler or retailer has the reciprocal right to

¹*Federal Trade Comm. v. Grantz*, 253 U. S. 421, 427, 40 Sup. Ct. 572, 64 L. Ed. 993; *Federal Trade Comm. v. Beech-Nut Co.*, 257 U. S. 441, 453.

²*Federal Trade Comm. v. Gratz*, *supra*, p. 429 of 253 U. S., p. 572 of 40 Sup. Ct., p. 993 of 64 L. Ed.

³*United States v. Colgate & Co.*, 250 U. S. 300, 307, 39 Sup. Ct. 465, 63 L. Ed. 992, 7 A. L. R. 443. See also *United States v. Freight Ass'n*, 166 U. S. 290, 320, 17 Sup. Ct. 540, 41 L. Ed. 1007; *Dueber Watch-Case Co. v. Howard Watch Co.*, 66 Fed. 637, 645, 14 C. C. A. 14; *Great Atlantic Tea Co. v. Cream of Wheat Co.*, 227 Fed. 46, 48, 141 C. C. A. 594; *Wholesale Grocers' Ass'n. v. Trade Comm.* (C. C. A.) 277 Fed. 657, 664; *Mennen Co. v. Trade Comm.* (C. C. A.) 288 Fed. 774, 780; *Booth v. Burgess*, 72 N. J. Eq. 181, 190, 65 Atl. 226; and 2 Cooley on Torts (3d Ed.) 587.

⁴*Eastern States Lumber Co. v. United States*, 234 U. S. 600, 614, 34 Sup. Ct. 951, 58 L. Ed. 1490, L. R. A. 1915A, 788. *United States v. Colgate & Co.*, *supra*, 250 U. S. 307, 39 Sup. Ct. 465, 63 L. Ed. 992, 7 A. L. R. 443.

⁵*Grenada Lumber Co. v. Mississippi*, 217 U. S. 433, 440, 30 Sup. Ct. 535, 54 L. Ed. 826.

⁶*Eastern States Lumber Co. v. United States*, *supra*, 234 U. S. 614, 34 Sup. Ct. 951, 58 L. Ed. 1490, L. R. A. 1915A, 788; *United States v. Colgate & Co.*, *supra*, 250 U. S. 307, 39 Sup. Ct. 465, 63 L. Ed. 992, 7 A. L. R. 443.

stop dealing with the manufacturer. This each may do, in the exercise of free competition, leaving it to the manufacturer to determine which customer, in the exercise of his own judgment, he desires to retain.

A different case would of course be presented if the Raymond Company had combined and agreed with other wholesale dealers that none would trade with any manufacturer who sold to other wholesale dealers competing with themselves, or to retail dealers competing with their customers. An act lawful when done by one may become wrongful when done by many acting in concert, taking on the form of a conspiracy which may be prohibited if the result be hurtful to the public or to the individual against whom the concerted action is directed.¹

We conclude that the Raymond Company in threatening to withdraw its trade from the Snider Company exercised its lawful right, and that its conduct did not constitute an unfair method of competition within the meaning of the act. The decree of the Circuit Court of Appeals is accordingly

Affirmed.

85. BELMAN DEPARTMENT STORE¹

FOREIGN COMMISSION BUYERS. In 1921 the store saved 10% by purchasing through commission buyers resident in Asia, rather than from New York importers. Deliveries were not prompt, however; material often was of poor quality; and native packing was inadequate.

PURCHASE THROUGH IMPORTERS. In 1924 the store decided to purchase again from New York importers, because assured quality was thought to be worth the increase in cost.

(1924)

Prior to 1921, the Belman Department Store, located in an eastern city, purchased its supplies of Japanese and Chinese merchandise from New York importers. In that year, the manager of the foreign department adopted the policy of placing orders with commission buyers in the oriental markets. The store paid a 5% commission to those buyers and effected a saving of 10% of the prices charged by importers. The commission buyers, however, failed to furnish materials of satisfactory quality, and to secure prompt deliveries.

¹*Grenada Lumber Co. v. Mississippi*, *supra*, 217 U. S. 440, 30 Sup. Ct. 535, 54 L. Ed. 826; *Eastern States Lumber Co. v. United States*, *supra*, 234 U. S. 614, 34 Sup. Ct. 951; 58 L. Ed. 1490, L. R. A. 1915A, 788. See also *Binderup v. Pathé Exchange*, 263 U. S. —, 44 Sup. Ct. 96, 68 L. Ed. — (Nov. 19, 1923).

²Fictitious name used for purpose of disguise.

In February, 1923, a representative of Linwood Brothers, another commission buying firm, interviewed the foreign-department manager and suggested that the store purchase through that firm, as 15 department and specialty stores in other cities of the United States already were doing. The foreign-department manager believed it possible to secure even lower prices in this way than had been obtained by independent purchases through commission buyers. He instructed Linwood Brothers, therefore, to buy \$40,000 worth of Japanese and Chinese merchandise, according to samples shown by the representative. He also authorized the firm to purchase on its own judgment \$5,000 worth of novelty materials which were to be produced subsequently but for which samples were not ready.

These materials were intended for display in the store during the Christmas season of 1923, but were not received until January, 1924. Since a member of Linwood Brothers was to call with new samples in February, it was necessary to decide whether or not purchase through that firm should be continued.

Linwood Brothers had offices and go-downs in Shanghai and Tokio; it purchased many materials directly from manufacturers and native dealers. Its own buyers also were sent to household producing centers for jewelry, carved bone, ivory beads, and similar goods, which were made for the most part in the workers' homes or in small shops. Shipments were assembled by Linwood Brothers; the merchandise ordered by each of its 15 clients was consolidated, inspected, and shipped on a c.i.f. basis to the ports nearest the individual stores.

The Belman Department Store arranged for letters of credit at a bank in Tokio and at one in Shanghai. Upon shipment of the merchandise, Linwood Brothers was to present shipping papers and necessary consular invoices at the bank and secure payment. The Belman Department Store was to reorder by mail. The retail firm was to attend to custom-house brokerage at the port of entry and to delivery of merchandise to its own store.

Japanese merchandise included bamboo and wicker baskets; knockdown chairs; silks and crepes, both in piece goods or made up; and toys. Fragile enameled furniture came from China. Brass ware, sold in the kitchen goods department; miscellaneous jewelry, such as ivories and carved bone beads; wooden novelties,

such as flower stands and bric-a-brac; novelty wares, such as Sumari jars; and chinaware, were secured both in China and in Japan. During and after the World War, American stores had turned to far-eastern markets in an attempt to secure substitutes for many articles formerly purchased from Germany. Japanese toys made according to sample in imitation of German toys, however, had shown peculiar characteristics, such as slanted eyes on dolls, which did not appeal to American customers. During the period when it had purchased Japanese and Chinese products from commission merchants, the Belman Department Store had observed that factory-made imports from the Far East frequently did not conform to American specifications. In many instances the store had received, through commission buyers, merchandise which did not conform to samples submitted. Such materials as silk goods and infants' garments, however, proved satisfactory.

The packing of native oriental firms was inadequate. For example, in January, 1924, the Belman Department Store received a shipment of Mah Jongg sets and found that 75% of the boxes had been broken in transit. Flimsy construction was reported later by customers. The cost resulting from breakage had not been determined, but it was a cause of inconvenience and also affected the reputation of the store with customers. The foreign-department manager believed that these difficulties would continue. Insurance against all breakage losses could be secured at a cost of approximately 2%, but if breakage occurred, the store had to wait for repairs to be made by local manufacturers or had to purchase from New York importers in order to have merchandise on sale when customers demanded it. Importers were said to have the same difficulties with breakage, but their prices covered the risk involved. An additional cost of purchase through Linwood Brothers was the loss of interest on investment in imports during the six weeks or two months between the date on which Linwood Brothers secured payment from the bank and that on which merchandise was delivered to the Belman Department Store. The manager realized that part of the delay in delivery of the \$5,000 worth of materials ordered for the Christmas season of 1923 had been caused by earthquake conditions.

The Belman Department Store could purchase merchandise

from importers in the exact quantities desired. This was a marked advantage, since when orders were placed with a commission buyer, it frequently was necessary to buy complete sets of articles such as crockery bowls. Importers, furthermore, were able to assure the store of uniform quality and prompt delivery of the materials that they carried in stock. Since the store could purchase frequently and in small lots, it could reduce its inventory to a low point.

On the other hand, the store would have to maintain contacts with several importers, because no one of them stocked all the articles required. It might be impossible, also, always to obtain a continuous supply. Japanese and Chinese products, however, were not subject to style change and the demand was such that customers were not lost if a continuous supply was not on sale.

Aside from the higher prices charged, importers seemed to offer a more satisfactory service than did the commission buyers. The store decided that assured quality was more important than the increased cost, and, therefore, resumed buying from New York importers.

86. HOSMER ELECTRIC MACHINE COMPANY¹

FOREIGN SALES SUBSIDIARY. The Hosmer Electric Machine Company marketed its electrical products in Mexico through a subsidiary sales company. Because of the lack of service and charging stations in Mexico, the company's subsidiary there was unable to sell indoor electric trucks successfully.

MERCHANDISING OF SUPPLEMENTARY PRODUCTS—MEXICO. The company decided that the Mexican subsidiary should take the agency for a storage battery and service station in Mexico City. Battery sales would assure operating profits, and prompt battery-charging service would increase sales of the company's own product.

The Hosmer Electric Machine Company was not successful in selling in Mexico its small electric trucks for indoor use. When one of the product specialists of the company's foreign department analyzed the situation, he conceived a plan to commence the sale of outdoor commercial electric trucks and of batteries, and to establish a battery-charging station as a means of

¹Fictitious name used for purpose of disguise.

sales promotion for the small truck. The plan was presented to the executives of the foreign department for ratification at their semiannual meeting.

The company originally produced electrical generation and transmission equipment. It had added to its products an electric truck, which was designed to pull various types of luggage carriers in railroad stations, factories, and other establishments which required indoor transportation.

In Mexico, the Hosmer Electric Machine Company marketed its equipment through a subsidiary sales company. That subsidiary had sold a few indoor trucks in the Mexican Republic, but had maintained no service station to recharge the batteries. As a consequence, proper care had not been taken of the trucks. Under those circumstances, the sales of the electric truck in Mexico had been less than the company had anticipated. No market analysis had been made.

The manager of the Mexican subsidiary, when urged to increase the sale of the indoor trucks in his district, had replied that it was useless to attempt such a procedure. He maintained that there was almost no market for the indoor trucks in his territory, and that because of the lack of service, each purchaser might become thoroughly dissatisfied when batteries required charging. He was also of the opinion that truck sales would show no net profit, if the company operated a service station that only recharged batteries.

The product specialist of the Hosmer Electric Machine Company ascertained that only one battery-charging station existed in Mexico City. That establishment did not suffice to fill the needs of all motor-vehicle owners, and the company could not rely upon it to give prompt, careful, and adequate charging service to purchasers of the small trucks. The specialist learned in addition that over 5,000 automobiles were owned and operated by residents of Mexico City, that the urban district was practically level, that the use of motor passenger busses was increasing, that firms used trucks with gasoline motors for intra-city hauling, and, in addition, that gasoline sold at retail at approximately 40 cents per gallon, a price which was substantially higher than the price of gasoline in the United States. The specialist was of the opinion that a need existed for an additional battery-

charging station. Electric outdoor commercial trucks might be sold successfully because of the high price of gasoline, and more indoor trucks probably could be sold if reliable recharging service were available to purchasers.

The product specialist recommended that the Hosmer Electric Machine Company take over the Mexican sales rights, which it was able to secure, for an electric commercial truck produced in the United States. The commercial truck was manufactured in types of from one- to five-ton capacity. At that time no other electric outdoor trucks were sold in Mexico City. The company also was to secure Mexican sales rights on a well-known battery manufactured in the United States. A battery store and service station then was to be established in Mexico City, and the commercial trucks and batteries were to be sold.

Although the product specialist had made no specific analysis of the potential Mexican market, he was of the opinion that the sale of batteries and commercial trucks, supported by a recharging and service station, was a practical method by which the company profitably might increase its Mexican activities.

He reasoned that since the Mexican market held promise of sales of the small electric trucks, and also of commercial trucks, the company should be willing to extend operations beyond its ordinary activities. In the United States, the company faced no similar problem, because of the prevalence of independently owned service stations which rendered prompt recharging possible. He pointed out that an establishment such as he had planned for Mexico City could be assured of operating profits from battery sales, without which the service station might be a financial failure. Direct current for the charging station was obtainable from the central stations which were customers of the Mexican subsidiary company.

The established reputation of the subsidiary was expected to facilitate appreciably the sale of batteries and large trucks. Adoption of the plan seemed a satisfactory method of enabling the Mexican company to promote also the sales of its small trucks and to furnish charging service, the lack of which had been the real sales handicap. The selling of batteries was akin to the usual activities of the Mexican company, and thus it did not present insurmountable obstacles. If the plan were successful,

the company could sell the larger commercial electric trucks and thereby satisfy a demand for any type of electric truck. The high price of gasoline increased the probability of sales of electric commercial trucks. The product specialist stated that it often was necessary to support a product in this roundabout manner in foreign markets, whereas the specialization of distribution functions in the United States might make such a procedure impracticable in the domestic market. He urged that the plan should be given at least a trial.

The Mexican manager replied that it was unwise for the company to attempt to sell products other than those which it manufactured. He stated, furthermore, that it might cost at least \$10,000 for the first year of operation. The company had to rent space for the service station, purchase three outdoor trucks to secure the agency for them, place batteries in stock, and employ a battery expert and a salesman.

The company decided to undertake the sale of batteries and electric trucks, because although that course was a departure from former policies, larger sales of the company's own products seemed assured. The plan was successful, and sales of batteries alone were sufficient to meet the expenses of the charging station.

87. BENDIX PHONOGRAPH COMPANY¹

FOREIGN OUTLETS SOUGHT DURING DEPRESSION. The business depression prevailing in 1921 caused the company to seek new permanent foreign outlets for its surplus products.

AUSTRALIA AS MARKET FOR HIGH-QUALITY PRODUCTS. Australia was selected because of its relatively sound financial condition, the high purchasing power of its inhabitants, and their demand for musical instruments.

SELECTION OF FOREIGN SALES AGENTS. Sales in Australia might have been obtained through export commission firms, Australian wholesalers, or through company salesmen. A well-established firm of music publishers in Australia, however, was willing to act as the company's distributor and to secure agents in all important towns and cities. Since this method assured aggressive selling, the company decided late in 1921 to appoint the Australian firm as its representative.

(1921)

¹Fictitious name used for purpose of disguise.

The prevailing depression in the established foreign and domestic markets of the Bendix Phonograph Company in 1921 caused the sales manager and the export manager to seek other outlets for the surplus products of its factories. Australia offered attractive possibilities; no attempt previously had been made by the company to enter that market. If the export manager decided to introduce the company's products into Australia and determined upon a method of distribution, the company intended to sell there permanently, and to increase factory capacity when necessary.

Australia was the best market in the Far East for musical instruments and accessories. There was a wide-spread local interest in music, and many prominent European and American artists toured the country. Many musical comedies from the United States and from European countries had long engagements in the Australian theaters and concert halls. This established a kinship in musical taste which had an important influence upon the importation of phonographs and records made in the United States.

Phonographs were manufactured in Australia to a limited extent; a high tariff aided the Australian manufacturers. All the records sold in the Australian market were imported, since no attempt had been made to manufacture them locally. The Bendix Phonograph Company manufactured a complete line of machines. Because of the high purchasing power of Australians, and their knowledge of music, most of the demand was for phonographs of excellent quality. French and German talking machines offered only price competition, but those made by several manufacturers in the United States competed on a quality basis. Most producers in the latter group were well established in Australia. Direct exports of phonographs from the United States to Australia in 1914 were valued at \$181,828; in 1915 at \$41,576; in 1919 at \$188,029; and in 1920 at \$411,183. Sales to Australia of records and accessories made in the United States totaled \$64,605 in 1915; \$206,997 in 1919; and \$162,369 in 1920.¹ Records which were popular in the United States sold well in Australia. The loss in 1915 was ascribed to ocean freight difficulties and other war disturbances.

The inhabitants of Australia were mainly of British extraction,

¹ Research Division, Export American Industries. *World Markets for American Musical Instruments, Including Phonographs, 1921*, p. 25.

and the standard of living was high. The prevailing rate of exchange for pound sterling for the fiscal year 1921 was \$3.90. The world-wide depression affected Australia less than most other countries. Favorable climatic conditions indicated that there would be excellent crops in 1921. Many merchants who had overexpanded in 1920 were carried by the banks, so that there had been few failures. Credit was being granted readily in 1921, and thus further difficulties were being forestalled.

The method of entrance in the market had to be decided also by the export manager. It was possible to sell through export commission firms in the United States, which represented foreign purchasers. Many of these firms also acted as manufacturers' agents and had established connections in Australia. The use of such a firm, therefore, offered an immediate outlet in Australia. Almost no credit risk was involved, since such firms paid the invoices at the established domestic terms. The credit risk in Australia, however, was regarded as small, because of the reputation of the Australian and British merchants. The experience of the Bendix Phonograph Company with commission firms in other markets, moreover, had been unsatisfactory because the firms did not concentrate on the sale of the company's products.

The establishment of its own sales force also was suggested. Assurance of proper representation in Australia was offered in this proposal, but progress would be slow until general distribution had been secured. If the company could make arrangements with a wholesale firm in Australia which already had an established group of customers, this period would be eliminated. Several firms had applied to the export manager of the Bendix Phonograph Company previously, but none had been acceptable to him. Proper representation was essential to the progress of any company which entered the market.

Late in 1921, however, the Bendix Phonograph Company, through correspondence, secured a firm of music publishers to act as distributor in Australia. The sale of phonographs was allied to the firm's business, and the Bendix Phonograph Company was assured of aggressive selling. The export manager, therefore, decided to enter the market. The firm of music publishers was able to secure agents in all the important towns and cities,

because of its local prestige. Sales of the Bendix Phonograph Company's machines and records were immediate, and within two years Australia became one of the chief foreign markets of the company.

88. AMERICAN CALCULATOR COMPANY¹

FREE TRIAL INSTALLATION AS SALES METHOD. In 1920 the company's export sales were 20% of its output of calculating machines. Free trial installation was the most effective domestic sales method. In 1923 the company wished to increase European sales by use of the trial installation plan.

CONSIGNMENT SHIPMENTS TO FOREIGN DISTRIBUTERS. The company's distributors in Europe were unwilling to make the further investments in inventories which would be necessary if the free trial installation plan were followed. The company decided, therefore, to sell on consignment to distributors in those European countries where there were adequate laws concerning ownership of consigned merchandise.

MONTHLY INVENTORIES AND COLLECTIONS. Each retailer was required to submit monthly a written inventory of machines held on consignment and to make payment for machines sold during the month. The company's resident European sales director was instructed to verify the distributor's inventory semiannually.

(1923)

In 1913 the American Calculator Company began production of a calculating machine which performed the operations of addition, subtraction, multiplication, and division. The product was sold in foreign countries by retail distributors with exclusive territories, who also represented other United States manufacturers of office appliances and equipment. The most effective domestic sales method was free installation of machines for trial by prospective buyers. Use of this method was desired in foreign markets, but foreign distributors, who were required to make payment for all machines in stock, were unwilling to invest working capital sufficient to finance the necessary inventory of machines. In 1923 it was proposed to the vice-president in charge of sales that the company aid foreign distributors by shipping to them on consignment.

¹Fictitious name used for purpose of disguise.

The company's export sales began on a small scale in 1915. An aggressive foreign-sales policy was not pursued because factory output could not supply domestic demand, but distributors in several countries who requested the privilege were granted exclusive territory rights. In 1919, because factory capacity had been enlarged sufficiently to supply both foreign and domestic demand, and because foreign sales had increased, it was decided to cultivate actively the foreign market. For this purpose an export manager was appointed. Exclusive distributors were chosen in more than 50 countries. In 1920, foreign sales were approximately 20% of the total sales volume. Early in the following year a branch office was opened in London. As an aid to the securing of foreign sales, new models were produced in the fall of 1921, which were designed to meet the requirements of foreign buyers. A new machine was devised which performed calculations in pounds, shillings, pence, and farthings, in addition to decimal computations. In January, 1923, a European sales director was appointed with headquarters in London. His duties were to supervise the activities of continental distributors and to increase sales by means of personal interviews.

Calculating machines were sold to foreign distributors at the United States list price, less a fixed discount, f.a.s. New York. Payment was made in dollars. Collections were made by drafts of 120-day duration or less, drawn on a bank with which credit accommodation had been arranged. A distributor's territorial rights were protected fully by the company. When a distributor was unable to sell the machines throughout his territory by means of his own salesmen, he selected subagents in outlying districts.

After the appointment of the European sales director, the proposed consignment plan received the consideration of the management. It provided for shipment of machines to distributors on consignment and specified submission of a written inventory by retailers at the end of each month. Payment at the same time for all machines reported to have been sold during the month was to be required. New shipments were to be made at monthly intervals to replace the quantity sold. Physical stock-taking semiannually by the manufacturer's representatives would provide for verification of inventories.

Shipment to distributors on consignment would allow them

to secure sufficient stock to permit installation of machines for trial use. Since payment was to be required only as sales were made, the amount of working capital needed by distributors would be reduced. A wider use of machines and increased sales were expected to result.

Introduction of this consignment policy was not expedient in every foreign country in which distributors were located. Laws concerning ownership of merchandise held on consignment varied in different countries and frequently did not protect the title of manufacturers. The Latin American laws rendered insufficient security, but those in European countries, with the exception of a few of the small ones, afforded adequate safeguards. Shipments on consignment would necessitate supervision over agents in order to confirm inventory records and to insure that remittances for all machines sold were received. The European sales director was in a position to perform this service in Europe, but adequate control could not be exercised by the existing foreign-sales organization in other parts of the world. The change in policy would increase the credit risks of the company and additional working capital would be necessary, since stocks held by agents would be owned by the company.

Inasmuch as the sales director's organization provided adequate supervision over agents in Europe for the protection of the company's interests, and the change would aid in stimulating the sale of machines, it was decided to make sales on consignment in European countries where the proper legal protection existed. Payment was required at the time of shipment, however, from agents in other countries where sufficient supervision over their activities could not be maintained.

The results obtained from the consignment policy during its first year were sufficiently satisfactory to warrant its continuance by the company.

89. LAMBERTI GROCERY COMPANY¹

2 HBA 1197

VARIABLE QUALITY OF IMPORTED FINISHED PRODUCTS. Before 1919, the company purchased cured cheese from Italian wholesalers. From 1919 to 1922, the company purchased cured cheese, through its office at Rome,

¹Fictitious name used for purpose of disguise.

directly from salters. The cheese thus purchased was not of the uniform quality which was required for the company's private brands.

CONTROL OF FOREIGN PROCESSING. The company, because it distributed cheese under its own brands, believed that it should control the processing of the cheese before exportation from Italy. The company, therefore, decided to increase its personnel, to lease a warehouse in Italy for curing and storing cheese, and to purchase uncured cheese directly from shepherds.

(1923)

The Lamberti Grocery Company imported macaroni, cheese, olive oil, olives, and canned vegetables from Italy for resale to wholesalers and retailers in the United States and Canada. The United States office of the company was in New York. A subsidiary purchasing company, incorporated in Italy, maintained offices and warehouses at Rome, Naples, and Milan. The Lamberti Grocery Company's total purchases were approximately \$10,000,000 annually; 5% was for cheese. The principal one of the eight important varieties of Italian cheese came from provinces surrounding Rome. Shepherds made this cheese and sold it to salters, who cured and aged the product. Wholesalers bought the prepared cheese and resold it to importers in foreign countries.

Prior to 1919 the Lamberti Grocery Company had purchased its supply from wholesalers in Italy. In that year, however, the company, through its Roman office, employed four Italians to purchase cheese directly from salters in the city. Purchases from 1919 to 1922 averaged 1,000,000 pounds annually and constituted one-half the company's cheese imports. The quality, however, was not always uniform. Since the company sold its products under its own private brands, it desired standard quality. The president suggested that the company purchase cheese directly from shepherds. No importer, however, had attempted to do that.

Upon investigation, the Roman office learned that the quality of the cheese varied with the care which shepherds gave the sheep in respect of feed and cleanliness, and with the weather conditions, as well as with the salters' methods and skill. Since buyers could not ascertain the original source of cheese that they purchased, the company concluded that it should purchase di-

rectly from shepherds who had reputations for care, cleanliness, ability, and favorable land on which to raise sheep. The buyers then employed had never purchased directly from shepherds. The addition, however, of one or two men with such experience to the buying organization would minimize this objection. Although there were more shepherds than salters, the former were located so near Rome that no further increase in the organization would be required. It would be necessary to depend upon the salters for supplies during the transition period, but no difficulty was expected in making that arrangement.

The net profits of important Roman salters were alleged to average about 15% of gross sales. The president estimated that the Lamberti Grocery Company probably could save the entire amount, since he believed that the company could cure as economically as the salters and purchase as large quantities as, or even larger quantities than, the average salter. The company, moreover, would be assured that the cheese was correctly salted and sufficiently aged. The process was not difficult; the company, although it had had no experience in the salting and curing operation, was confident that it could hire competent men for that work. The entire operation required only a few employees.

The city levied a tax on shipments of cheese into the city, but maintained bonded warehouses to which cheese destined ultimately for any locality outside Rome might be shipped without payment of the tax. The company could obtain a section of one of those warehouses connected with railways by spur tracks. The Tiber River and canals offered, furthermore, means of transportation to the coast. The company had sufficient capital to invest in inventory during the four or five months' curing period. It was not necessary to organize a separate company, and taxes were moderate.

In November, 1923, the Lamberti Grocery Company leased a section of a bonded warehouse in Rome and prepared to cure cheese, which it purchased directly from the shepherds. A buyer experienced in purchasing from shepherds for the salters was added to the organization. The company looked upon this change in its method of purchasing as being doubly advantageous: it would increase net profits, and result in a more uniform quality of the product

90. RADWAY TALKING MACHINE COMPANY¹

FOREIGN BRANCH FACTORY. Despite difficulties in administrative control, the company decided to establish a factory in Argentina in order to reduce import tariffs and to intensify its sales efforts.

FOREIGN SALES BRANCH. Because it was dissatisfied with the sales of its high-quality product in Argentina through an export commission house, the company decided to establish its own branch together with warehouse and assembly plant.

ARGENTINA, METHODS OF MARKETING IN. By establishing its own assembly plant, warehouse, and sales offices in Buenos Aires, the company introduced a system of exclusive retail agencies similar to its method used in the United States.

(1915)

The executives of the Radway Talking Machine Company, in 1915, were not satisfied with the company's relationship with the export commission firm which had controlled its sales in Argentina since 1902. The objection of the export manager was that such firms did not exert intensive sale efforts. Their tendency was to accept orders which were received, but to make little or no effort to secure other sales. If the company were to change its sales policy and assume the functions that it had delegated theretofore to the commission firm, it was necessary to decide what methods to use in the development of the market. It was proposed that a branch factory be established in Argentina, for the production of wooden cabinets and the assembly in the cabinets of metallic and rubber parts imported from the United States factory. This plan also involved securing a warehouse in which to store phonographs and phonograph records for local distribution.

The Radway Talking Machine Company had never sacrificed quality of its musical instruments in an effort to lower prices. French and German phonographs had been sold in the Argentine market, but their competition was stated to have been solely on a price basis. No local factories had been established.

The company was assured of a supply of wood in Argentina for phonograph cabinets, although most of it was imported; skilled workmen could be secured in Buenos Aires. Estimated costs of manufacture were higher than in the United States, but

¹ Fictitious name used for purpose of disguise.

this increase was more than offset by the saving in freight charges. The shipping costs for metallic and rubber parts alone were much less than those for the bulky complete phonograph.

The manager of the new factory was to be placed in charge of the company's warehouse and sales in Argentina, in order that sales and production might be coordinated. The sale of phonographs was seasonal in the United States, and the company assumed that the same conditions prevailed in Argentina. A surplus could be produced in the slack season and stored for the peak demand. Records could be distributed from Buenos Aires more satisfactorily than from New York, because the demand for them was for immediate delivery. The popularity of a majority of the company's records was temporary, and if they were not accessible while popular, sales were lost. This element made the inventory speculative, but that was an ordinary risk of the company.

The establishment of a branch factory at so great a distance from the general factory of the company involved a problem in control. Since maintenance of quality was essential in the development of the Radway Talking Machine Company's product, the difficulty of satisfactory supervision over manufacture in the branch factory was a serious obstacle. The company had no men with managerial ability to send to Buenos Aires. It would be necessary, consequently, to secure natives to be trained for those positions. The officers of the company realized, however, that a sacrifice of quality must be risked in undertaking the manufacture of phonographs in a foreign market. The importation into Buenos Aires of the parts necessary for the maintenance of tonal quality for incorporation in the finished product would reduce the risk, but not remove it entirely. Frequent changes in styles of cabinets were made by the company, but no difficulty was expected in having them made in Buenos Aires also.

The manufacture of cabinets in Argentina would not affect production schedules in the factory in the United States, since the latter could be utilized fully to meet an increasing demand in the domestic and other markets.

Phonographs sold to customers in other countries in South America could not be distributed profitably from Buenos Aires. The cost of the product assembled in Argentina would be less

than the c.i.f. cost plus duty of the New York product. The tariff rate on phonographs and parts in Argentina in 1915 was 27% ad valorem; in Uruguay, 31%; in Paraguay, 35%. Phonographs quoted in New York, for example, at \$100 c.i.f. would cost \$127 at Buenos Aires and \$131 in Uruguay. If the cost of the assembled product in Buenos Aires was \$115, the company must lose \$15 on shipments to Uruguay since the price of \$115 plus a 31% duty was prohibitive in comparison with prices on shipments from New York. The only possible saving was in freight, and the export manager stated that other markets in South America could not be served from Buenos Aires because of the price differential. The difficulty in freight transportation to most other South American countries from Buenos Aires also made New York preferable as a shipping point for a majority of the markets.

The export commission firm had paid within 10 days for all phonographs which it had distributed in Argentina. The proposed change in sales organization would transfer the credit risk to the Radway Talking Machine Company. The control of credit through the manager at the Buenos Aires factory presented another problem. The company was forced to weigh the relative advantages of the increased market and the resultant profit from the aggressive sales efforts of its own salesmen, against the assumption of credit risks.

Preference of Argentine purchasers for a product manufactured in their own country could not be counted upon as a factor of great importance. High tariffs for protection of local industries, however, seemed to be the policy of the government. Because of the supply of parts that would be carried in the Buenos Aires warehouse, the workmen in the factory could repair phonographs readily. Such a facility would contribute to the good-will which attached to local products.

A risk in the investment of funds in a foreign country was present in that fluctuation of the exchange rates might prevent transfer of profits to the United States office without loss.

The Radway Talking Machine Company, however, decided to open a branch factory in Buenos Aires. An Argentine citizen was employed as its manager and was brought to the United States for instruction in the company's methods of production.

A sales quota for the branch was established in the same manner as for sales branches in the United States. The economic condition of the country, the buying power of the people, previous sales records in Argentina, and the capacity of the branch factory were the principal factors which affected the determination of the quota. The life of a phonograph was estimated at 10 years, so that repeat sales during that period would be negligible.

A system of exclusive retail agencies similar to that through which the company controlled its domestic distribution was installed. The manager of the branch factory was given supervision over credit arrangements with the local retailers, because the officers of the company concluded that he was in an advantageous position to observe changes in credit standing. The appointment of retail agencies, however, was subject to the approval of the export manager of the company.

The profits from the sale of records after the establishment of the branch were equal to those from the sale of phonographs. The quality maintained in the factory was satisfactory to the export manager of the company. The branch was able to fulfil the sales quota which was assigned to it.

91. WESTERLY MOLASSES COMPANY¹

PARTIAL DISTRIBUTION OF PRODUCT IN PACKAGES. The Westerly Molasses Company produced high-grade molasses which it sold in barrels. By 1922, sales of inferior molasses from barrels had injured the reputation of all bulk molasses, and the product had been packed and sold in small cans increasingly by competitors. The company decided to pack its molasses in cans, and also to continue sales in barrels.

PACKAGE BRANDS. The company decided to place its own brand on the packages and to create a demand for this brand through newspaper advertising and missionary salesmen. It decided to sell also to wholesalers and chain grocery stores who wished to place their brands upon the packages.

(1922)

The Westerly Molasses Company manufactured high-grade molasses which it distributed through wholesalers and chain stores in the eastern part of the United States. In 1915 its

¹ Fictitious name used for purpose of disguise.

competitors began to sell molasses in small cans, but the Westerly Molasses Company continued to make only bulk sales in barrels weighing 700 pounds and containing 50 gallons. Housewives in country districts still were purchasing molasses in bulk, because it was less expensive and because they had large kitchens and storerooms in which they could keep it, but the general consumer demand for molasses seemed to be declining. By 1922 there had been no decrease in the company's sale of molasses in bulk, but the demand for food products in packages had become so marked that the sales manager investigated the policy of selling molasses in cans, for the purpose of deciding whether or not the company should adopt that plan.

Sales were made by two traveling salesmen. Formerly, it had been customary to make yearly sales contracts. Orders for single shipments in carload lots often were received, and frequently drop shipments of several barrels or hogsheads had been made to individual retailers for the accounts of wholesalers. Shipments in large quantities to retailers had decreased appreciably.

The quality of molasses depended upon the extent of centrifugal separation and the degree of heat used in the process of refining. Molasses which had become overheated was bitter and became even more so in the baking process. Salesmen learned that retailers frequently received complaints from housewives that molasses purchased in bulk was of inferior quality. The Westerly Molasses Company distributed only a high quality of medium-heated molasses, but it realized that grocers who dispensed molasses in bulk often were selling a cheap quality which allowed them a wider margin of profit. This injured the reputation of all bulk molasses. The company could not control sanitary conditions in retail stores in which bulk molasses was distributed. Investigation of the quality of canned molasses, however, indicated to the company that much of this also was of inferior quality, and that sales of canned molasses of high quality should meet with little sales resistance.

A careful study of developments among grocery retailers convinced the company that, particularly in metropolitan centers, the average size of retail grocery stores was decreasing, and consequently the stores were ordering merchandise in smaller quantities. If this tendency continued, it would be increasingly

difficult to sell molasses in bulk. The manager did not believe that the internal control methods of retail grocery stores had changed markedly from those of previous years and did not, therefore, attribute the reduction in the size of orders to a policy of reducing stocks and increasing the rate of stock-turn.

The Westerly Molasses Company mailed a questionnaire to its wholesale customers which asked, among other questions, the sizes of cans in which molasses was sold and the average size of orders. The returns indicated that molasses was distributed in 1½-, 2-, 2½-, 3-, 5-, and 10-pound cans. Retailers ordered mostly 1½-pound, 2½-pound, and 10-pound cans, and their orders usually were for broken case lots. A case consisted of thirty-six 1½-pound, twenty-four 2½-pound, or six 10-pound cans. The questionnaire indicated that less than one-third of wholesalers' sales of molasses were in canned form; the remaining sales were in barrels.

The chain stores and wholesale grocers to which the Westerly Molasses Company sold in bulk also were distributing molasses under their own brands in cans. The sales manager was apprehensive that, if the Westerly Molasses Company distributed molasses in cans under its own brand, sales would not be promoted vigorously by wholesalers' salesmen, who tried to sell the wholesalers' brands first and were merely order-takers for manufacturers' brands. Bulk molasses had not competed directly with wholesalers' and chain systems' private brands, and therefore had not encountered resistance on the part of those distributors. The company's brand would be in direct competition. If the company attempted to force the sale of its brand of molasses in cans through wholesalers and chain stores, the latter might refuse to purchase its bulk molasses. Missionary salesmen probably would be necessary to develop a demand among retailers; five additional men would be required to cover the territory adequately.

The management estimated that it would be necessary to incur a loss on sales of canned molasses for the first two years. This loss would have to be absorbed by the profits on bulk sales. Most of the canned molasses on the market was inferior to the Westerly Molasses Company's product. It sold at about \$1.50 per 10-pound can to the consumer, whereas a price of \$1.80

would not have allowed the Westerly Molasses Company to make a profit on the volume that could be expected within two years. A price of \$1.80 per 10-pound can to consumers represented a mark-up of about 36% over the bulk price, to compensate for the additional cost of containers, advertising, and missionary salesmen. Relatively higher prices had to be charged for smaller sizes. Until the Westerly Molasses Company's brand became established as a higher grade of canned molasses, the price appeal of the other brands was likely to predominate. The initial marketing of such a highly priced article was a particularly difficult sales problem because housewives were purchasing at cut prices from chain stores.

The sale of molasses in cans would make possible a direct linking of the name of the Westerly Molasses Company with molasses of fine quality, whereas when sales were made only in bulk, the name of the Westerly Molasses Company was not connected in the minds of consumers with the molasses sold. Thus the consumer demand ultimately established might force retailers and wholesalers to stock the Westerly Molasses Company's canned molasses. Eventually chain-store systems and wholesale grocers who made a specialty of their own brands might decide to stock the Westerly Molasses Company's brand. The company realized, however, that household consumption of molasses, the source of demand for molasses in small cans, might decline because of the increase in purchases of cooked food from bakeries and delicatessens.

The Westerly Molasses Company decided to distribute molasses in 1½-, 2½-, and 10-pound cans for sale under the brand of the Westerly Molasses Company, to create a demand for its own brand by newspaper advertising, and to employ missionary salesmen to acquaint retailers with the product. Sales in cans also were made to wholesalers and chain grocery stores for labeling under their own brands. The retail price of the 10-pound can was to be \$1.80.

In 1924, sales of canned molasses were at the rate of 5% to 10% of the company's total sales, and were not sufficient to yield a profit. The company expected, nevertheless, that its canned molasses would meet with steadily growing demand. The advertising and sales efforts were to be continued.

92. OAK CHEMICAL COMPANY¹

RETURNABLE CONTAINERS. The company shipped chemicals in returnable barrels which were billed to customers at prices substantially above cost.

CONTINGENT LIABILITY. Since customers frequently retained the barrels after paying for them, the company could have shown part of the revenue from that source as profit, but decided to credit the entire amount to a contingent liability account subject to occasional adjustments.

The Oak Chemical Company was organized to manufacture liquid chemicals for distribution in barrels under its own brand. The company wished to have customers return the barrels, which were to be billed separately from the contents but were to be paid for on the same terms. To encourage customers to send back the barrels, the company decided to bill the latter at prices well above cost, and agreed to make reimbursement in cash or in credit for merchandise upon the return of containers in good condition. The problem was whether barrels when shipped should be shown as a liability of the company to its customers, or whether the account might be treated as a revenue account and the balance of credits for barrels billed over barrels returned shown as a profit at the end of each year.

The company expected that the majority of the barrels shipped would be returned by customers, and the credit used to apply on new merchandise or refunds taken in the form of checks. Many customers, however, were expected to keep the barrels or to resell them in other markets. Over a period of several years, large credit balances probably would be shown in the barrel account, and it might be assumed safely that after an interval of one or two years, the barrels would have been disposed of in other ways. Since the company's policies were conservative, it was decided that an account for returnable containers should be established, the balance of which was to be kept on the company's books as a liability to customers and that this balance should not be taken as a profit. In making the decision, the company realized that adjustments to this liability account would be necessary, from time to time, because it would contain barrels which never would be returned. These adjustments would be made by debiting the liability account for the amount by which it

¹ Fictitious name used for purpose of disguise.

appeared to be excessive. The corresponding credits would be to the barrel asset account, for the cost of the barrels, and to profit and loss, for the amount by which the barrels had been billed in excess of cost. Such action, however, would be infrequent and without effect upon the decision of the company to treat the account as a real liability account and not as a revenue account.

To carry the decision into effect, it was decided to place on the books two accounts. The first was called Tight Barrels, and the second was Returnable Containers. The Tight Barrels account was to be debited with the purchase price of barrels and with inward freight and handling charges. Credits were to be made through an account, Depreciation on Tight Barrels. An average barrel could be used for four trips. At the end of that time, it ceased to be useful as a container of liquids and would be sold to other companies which did not require strictly tight barrels. The depreciation account should be debited monthly at a rate which reduced the value of each barrel, by the time it had completed four trips, to the market price of used barrels. The account then was to be credited with the market price of barrels sold.

In the calculations which determined gross profit, deductions were to be made from net sales for cost of merchandise and cost of containers. The Cost of Containers account was to include the monthly depreciation charges credited to Tight Barrels and the total monthly charges for cooperage and maintenance of containers.

To show the liability to customers the Returnable Containers account was credited with the billed price of each barrel shipped. When barrels were returned, the customer was credited and the Returnable Containers account debited. The credit balance of this account was shown on the annual balance-sheet as a liability to customers, and was not treated as a revenue account.

93. SAGAMORE HARDWARE COMPANY¹

NUMBER OF PRODUCTS IN PACKAGES. The company made 56,000 articles of hardware, which were accounted for, packed, and invoiced by the dozen or gross, though made in units.

¹ Fictitious name used for purpose of disguise.

TRADE PRACTICE. It was the established practice of hardware wholesalers and retailers to place orders of dozens or multiples of dozens, although sales to consumers usually were made in single units.

DECIMAL SYSTEM. Because of the possible savings in production and distribution costs, and the ultimate convenience to most customers, the company decided to adopt the decimal system of packing and invoicing.

The Sagamore Hardware Company manufactured and sold nationally to wholesalers and retailers 20,000 items of finished hardware and 36,000 parts for these finished items. Like other hardware manufacturers, the company sold its merchandise by the dozen or by the gross. Consequently, although all the items were produced in single units, it was necessary to assemble and price them by the dozen or gross for distribution to customers. Since the majority of these products were sold to the consumer in single units, retailers had to change the prices back to terms of single units. To eliminate these two unnecessary changes, the assistant sales manager of the Sagamore Hardware Company suggested that the decimal system of packing and pricing products be adopted.

Under this proposed system, articles formerly sold by the dozen or gross were to be packed and priced by tens or hundreds. Although the production and sale of articles by the dozen or gross had taken into account the proper size of the package from the point of view of convenience in packing and ease of handling, it was not believed that the change to tens and hundreds would affect these factors materially. An extra charge had been made for broken packages and, when an order had been received for a quantity slightly larger or smaller than that regularly packed, it had been changed to the regular package quantity. This practice was to be continued under the decimal system.

It was probable that a substantial, although undetermined, saving in clerical expenses would result if wages were paid and production costs figured on the unit basis made possible by use of the decimal system. The majority of the workmen were paid on a piece-rate system, with the basis in most instances the dozen. For example, if a workman produced 103 items during a specific period, it was necessary to convert the 103 items into dozens and multiply the result by his rate of pay in order to

determine his wages. This required more time than if this workman were paid according to the number of single units produced. In addition, it was more difficult to compute invoices by the dozen than by the unit, especially when fractions of dozens were involved.

The total expense which would be incurred in converting the plant to the decimal system of paying wages, determining costs of production, packaging, and pricing, was estimated to be \$10,000. In a few years the amount saved in clerical expense might aggregate \$10,000, although no statistics had been collected to determine exactly what the yearly saving might be. Nevertheless, a final net saving seemed probable.

It was an especial advantage to customers to have builder's hardware priced by the unit, since in contracts for builder's hardware, the numbers of articles required were stated in units. Pricing in this way might be helpful to the Sagamore Hardware Company as well, since many contracts for builders' hardware to be used on mercantile buildings were estimated directly by the company's salesmen or by a factory representative of the company. A saving in time and an elimination of possible mistakes on a detailed contract might be attained thereby. Sales of builders' hardware constituted from 50% to 65% of the company's total volume of sales.

If it were possible, moreover, for the manufacturing company to reduce its clerical expense with the adoption of the decimal system, wholesalers and retailers also might be able to effect similar savings. One wholesaler, for example, had determined that when an order of average size was priced in dozens, 1,000 comptometer operations were necessary, and when that same order was figured in units, only 600 comptometer operations were required. A retailer, furthermore, would receive his invoices in terms of units and no longer would have to translate his cost prices from dozens to units before setting his selling prices.

Many customers, however, either because of unwillingness to cooperate with the change in policy or because of the inertia of long established custom, might continue to order products by the dozen or gross. It then would be necessary for the Sagamore Hardware Company to change such orders to the nearest

quantities in which the products were packed. For example, an order for a dozen of a product formerly packed by the dozen would be filled by a package of 10. This might lead to dissatisfaction on the part of customers when they checked their invoices against their orders, and possibly to discontinuance of purchases. The Sagamore Hardware Company would lose, furthermore, the sale of two units on each order for a dozen; this loss would continue even after customers accepted the decimal system, since orders for tens always would be submitted in the great majority of instances where formerly dozens had been ordered.

Because of the greater convenience to its customers and to itself, the Sagamore Hardware Company decided to adopt the decimal system of packaging and pricing its products. Shortly after its adoption, a vote was taken among 173 hardware retailers throughout the United States; 172 of them expressed approval of the decimal system. Hardware wholesalers likewise expressed satisfaction with the change. The Sagamore Hardware Company, therefore, deemed that the loss in the number of accounts because of such a change would be negligible. At the end of the first year, however, about 1% of the company's customers had discontinued purchasing from it because of their dissatisfaction with the new system. Notwithstanding this fact, during that year the Sagamore Hardware Company secured the largest volume of sales of any year since its organization. Other hardware manufacturers adopted the same policy, and in one instance, a hardware wholesaler packed all his merchandise in boxes of 1, 10, or 100 units, although he purchased many of the items from manufacturers who had not adopted the decimal system.

94. HUNT INSULATED WIRE COMPANY¹

QUICK INTRODUCTION OF IMPROVED PRODUCT. The company developed a superior type of insulated wire, and wished to obtain immediate distribution before competitors imitated the product. The company's chief customers were manufacturers and public utility companies.

DIRECT-MAIL ADVERTISING—USE OF SAMPLES. To obtain prompt results and

¹Fictitious name used for purpose of disguise.

to give the effect of a personal approach, the company decided to advertise the new wire by means of a direct-mail campaign rather than by advertising in trade papers. Usable samples of the wire were furnished on request.

The Hunt Insulated Wire Company, which sold its products to manufacturing and public utility companies throughout the United States, sought the best method of securing rapid introduction of a new product, rubber-sheathed wire. National consumer advertising as a policy was deemed inadvisable, since the company's products had little appeal to the public, and technical knowledge was necessary for their use. Little effort, therefore, had been made by the company to obtain orders from individual consumers. The president instructed the advertising manager to prepare, in collaboration with the sales manager, a campaign which would introduce the wire quickly and establish it as a Hunt product before it was imitated by competitors.

The company had built up a substantial volume of sales through a limited number of branches and wholesale distributors. It advertised in six trade papers, but sales increases were attributed primarily to the quality of the products and the service to customers.

Any company operating a repair shop or maintenance department had daily uses for wire with the newly perfected insulation, on lights, fans, and machinery. A substantial demand was expected from textile, chemical, and automobile manufacturers, railroads, lighthouses, garages, machine shops, shipbuilders, street railways, and mines. The market was not limited to these consumers, however, since the wire was adaptable for use in homes for electric lights, fans, and washing machines.

The new product was superior in several ways to braided cotton and hemp insulated wires. The construction of the new insulation was similar to that of a cord automobile tire. Its outer jacket consisted of 60% rubber; it was flexible, yet it did not kink. It was durable; tests had shown that it lasted four to ten times as long as the ordinary insulated wire. The common cuts and abrasions received in use near machinery were not so likely to harm it; it did not retain oil or grease. It was water-proof and could be cleaned easily. The cost was greater than for the wire it would displace, but this difference was more than offset by its longevity.

The established customers of the company seemed the best outlet, even though new uses had been found for the wire.

Two methods were available for the introduction of the wire. One was to reach the potential market by the use of advertising in trade papers; the other, to create demand by means of a direct-mail campaign. The latter method offered a more personal approach than trade-paper advertising; furthermore, it could be planned more quickly and was more likely to produce immediate results. The direct-mail method, therefore, was adopted.

The advertising manager then procured a list of possible users, by industries, including only those companies which were above a minimum capital rating set for each industry. The company's original policy of soliciting orders from large consumers was decided to be the most practicable for the introduction of the new product. An energetic campaign directed to large purchasers of insulated wire probably would be effective in making the new insulation known as a Hunt material. If the buyers of large quantities ordered the new wire, smaller purchasers could be influenced to do likewise.

A standard circular letter was mailed to the selected companies with the request that it be referred to the executive interested in wire products. An offer was made to send a sample of wire upon request and a stamped postal card was enclosed. In answer to each card returned the company sent 15 feet of the rubber-sheathed wire. This length was chosen because it was suitable for household, garage, or warehouse use. The fact that the samples were actually usable was expected to enhance their effectiveness. Returns from the circulars were of three types: expressions of no interest; requests for samples; requests for samples and additional information such as prices of other Hunt products. Names of companies that expressed no interest were taken from the list immediately. Samples were mailed to the other firms from the advertising department; a letter accompanied each sample.

The names of companies which requested samples or information were given to the sales department. In the advertising manager's opinion, the most important factor of the campaign was thorough and prompt treatment of replies. A copy of the letter that accompanied each sample was sent through the sales department to the sales organization in the district from which the

inquiry came. If the district was one where direct sales were made to consumers, the letter was given to the salesman; if it was a district served by a wholesaler who purchased from the company or one of its branches, the letter was mailed to the wholesaler through the branch. The good-will of wholesalers and sales representatives was increased by this practice.

Sixty days after each sample was mailed, the advertising department consulted the files of the sales department to learn whether the recipient had purchased wire or had inquired the prices of any other Hunt products. If no correspondence was found, a follow-up letter was sent by the advertising department. This letter requested a report on the recipient's experience with the sample wire. If then no reply was received, similar letters were mailed every 30 days for a period of 5 months or until an answer was obtained. If no reply was received at the end of the 7 months' period, the name was taken from the list and the sales representative for that district notified. All these letters were in addition to follow-up visits conducted by the sales representatives of the company or its wholesalers, but they were mailed from the office of the sales manager.

At 60-day periods the mailing list was revised. The names of companies that had requested samples were removed, and the remaining firms circularized again. The company then investigated the possible uses that inquirers might have for the new product and included, in the standard circular letters, paragraphs describing the application of the wire in each industry. The returns on these letters were about 5%; of the companies that replied, about 90% requested samples. The letters were sent out at the rate of 8,000 per month. One list showed a return of 4½ from its fifth mailing, with 96% of this number requesting samples. The mail circularizing was deemed to have been satisfactory.

95. SHAWNEE POLISH COMPANY¹

SEASONAL SALES. Sales of the high-quality metal polishes which the company manufactured were distinctly seasonal, with a spring peak and a dull period in December and January.

NON-SEASONAL ADVERTISING. The executives decided to advertise regularly

¹ Fictitious name used for purpose of disguise.

and without special seasonal emphasis, in order to secure the maximum value of constant repetition and to maintain the products' reputation for high quality.

(1918)

A new management secured control of the Shawnee Polish Company in 1918, when sales were decreasing, and determined to advertise the company's products to consumers. The former owner never had advertised. An analysis of sales disclosed the fact that demand increased markedly in the spring, and was negligible during December and January. The officers, therefore, discussed two different advertising policies. One concentrated most of the publicity according to the degree of seasonal activity; the other provided for continuous advertising appeals throughout the year, without regard to the seasonal factors.

The company was incorporated in 1883, for the purpose of manufacturing stove, silver, and metal polishes. Ninety per cent of the product was distributed through wholesalers to department stores and drug, grocery, and hardware retailers. The remaining 10% was packed in a less expensive size and sold directly to 5-and-10-cent stores. Sales were restricted to New England. In 1917 they amounted to approximately \$70,000. From 1900 to 1918 the sales were aided materially by the use of brass railings and name plates as decorations on the outside of stores and also by the increased production of automobiles, which had metal finishings on head lights and radiator casings. The incorporator made no special effort to expand the business, for he had built up what he considered to be a satisfactory volume of sales.

The new management attributed the decrease in sales after 1918 to the declining use of brass railings and plates by stores; the high cost of labor for polishing purposes had rendered them expensive luxuries. Nickel furnishings, furthermore, had been substituted for brass by automobile manufacturers. The nickel was not so strong as brass and constant polishing wore it away. The manufacturers, consequently, to preserve the appearance of the cars, enameled the parts that formerly had been nickel plated.

The new officers installed machinery which, exclusive of the cost of containers, enabled it to bottle 100 gross as cheaply as

5 gross had been filled. The advertising policy was to be adopted as a means of sales promotion, since maximum use of the equipment was desired. Two competitors already were advertising.

The sales manager was permitted to use for advertising an amount equal to 10% of the previous year's sales. His plan was to place displays in New England street-cars and to supplement them by small inserts in local newspapers. He asserted that the company possessed a reputation for quality and that only through advertising was it possible to keep this reputation before the public. There was keen competition in the sale of polish. Several small producers were selling in bulk to important consumers such as stores and offices, at prices which, if adopted by the Shawnee Polish Company, were insufficient to yield a satisfactory profit. The sales manager, therefore, was averse to entering the bulk trade.

The appeal of the company was to be to the housewife. Advertising in periodicals such as the *Saturday Evening Post* and the *Ladies' Home Journal* was not deemed to be advisable, because the company was not planning national distribution. The sales manager believed that advertisements in street-cars, if supplemented by inserts in local newspapers, ought to be of maximum effect. Advertising in trade journals, for the purpose of maintaining retailers' interest in the company's product, was allowed 10% of the total advertising budget.

It was contended that the most advantageous time for an advertising campaign was in the spring, which was house-cleaning time. In this period, sales of polish were greatest and wide publicity would assist retailers to sell a maximum quantity of the company's products. A second suggestion was that the advertising be concentrated in the first and last months of the year. In these two months the company experienced its minimum volume of sales. In December, Christmas merchandise displaced polish on the retailers' shelves. In January, the majority of retailers were engaged in taking inventory for income tax purposes and, consequently, desired to have as small a stock as possible. Creation of consumer demand at that time, consequently, seemed of particular importance.

Sporadic advertising, however, had its disadvantages. If the purpose of the company were to keep its name continually before

the public, once an advertisement had been placed in a medium it should not be withdrawn; otherwise the company would lose the advantage of the constant repetition of its name. Unless new and original advertisements were substituted for the old, however, it was apprehended that people were likely to tire of seeing the same display in the same place. Yet if people noticed the advertisements sufficiently to tire of them, it was probable that they would not forget the company name when they purchased supplies of polishes.

The management of the Shawnee Polish Company decided to distribute advertisements evenly for two years, according to the methods outlined by the sales manager. No unusual expenditures were made for seasonal appeals. The policy of the company for ensuing years was to be based upon the results as evidenced by the sales of those two years. In order to minimize the risk that the company's products be used by retailers as leaders, no mention of price was made in the advertisements. In spite of this, the polish was used as a leader to a moderate extent. Sales, however, increased rapidly each year, and the policy was continued without change. By 1922, sales were three times the volume secured in 1917.

96. ROARK SAW WORKS¹

BRANCH CONTROL OF CREDITS AND SALESMEN. In order to be able to make prompt deliveries, the company decided to change its seven repair and service shops into sales branches and to establish four additional sales branches. To aid in carrying out its sales program, the company decided to decentralize the control of credit and of salesmen. The branch managers, therefore, were given full responsibility for the application of the company's general policies.

For 25 years the Roark Saw Works maintained shops for repairing and revamping saws in 7 cities which were wood- and metal-working centers. In the normal usage of circular saws it was necessary to rework and rehammer them. If the speed at which a saw was to be used was increased, the saw had to be hammered so that it could withstand the higher speed. To rework saws required skilful mechanics, and the company be-

¹Fictitious name used for purpose of disguise.

lieved that the service of its saws was bettered when this work was done by trained employees of the company rather than by small repair shops.

At the end of that time, because of the inattention of agents and mill supply firms, the activity of competitors' branches, and the demand for service in estimating mill requirements on special orders, the company decided to establish sales branches. The seven repair shops were to become actual selling units, and four additional branches were planned. An essential provision was that all branches should carry adequate stocks. Mill supply firms did not desire to stock large saws, because orders for them were infrequent, specifications varied, and costs were high. For example, a circular saw of 60-inch size was priced at \$250, and large band saws, at from \$350 to \$500 each.

In order to solicit specific orders for which competition was keen, the managers of four of the repair shops from time to time had requested that small saws, such as hand saws or keyhole saws, be sent to the shops. In this way small inventories had been built up at those establishments. The intensity of competition with two other sawmakers, furthermore, caused the managers of those shops frequently to demand special concessions.

Thus, before the management was cognizant of the transition, four of the repair shops in reality had become branches. After the decision to complete the change, however, the company perceived the need of defining the responsibilities of the branch managers.

The Roark Saw Works made a wide variety of saws, all under the Roark brand. In small sizes, there were over 3,600 models, including hand saws, coping saws, keyhole saws, hack saws, and floor saws, which varied in dimensions and number of teeth to the inch. Handles were fitted to saws in many combinations. Although the most common woods were apple and mahogany, rosewood also was used. Large saws were made in circular and band models. The major portion of the large saws was sold on special orders for specific factory requirements. The Roark line also contained saw tools, floor scrapers, and small wood-working devices in the production of which steel remnants were utilized.

It was evident that a complete line of mill supplies would have to be carried at each branch, since it was customary in the lumber and mill business for a buyer to place most of his orders with a single source of supply. Competitors were using supply lines of belts and pulleys effectively as leaders for the saw business.

The repair shops had not presented a serious problem so long as their business was concerned mainly with service, but the new branches would require extensive administrative control. Although the selection of the stock was to be made by each branch manager because of his familiarity with local needs, the senior executives were apprehensive lest this lead to overstocking.

The Roark Saw Works carried on its books 25,000 accounts, of which 17,000 were to be turned over to the 11 branches. In order to lessen the work of the managers, it was decided to centralize under the general credit manager at the home office all collections except those in the cities in which the branches were located. The general credit manager was to stipulate rules for the branch managers to follow in the extension of credit to customers. Each branch manager then was to determine the credit terms to be granted to each customer in accordance with these rules. Although this policy did not assure entire uniformity of practice in granting credits, it made possible prompt acceptance of orders for immediate delivery.

Advertising was to be handled from the home office. The company planned to continue its advertising in trade papers and direct-mail solicitation. The reductions in the branch managers' tasks were made in order to give them more time to develop contacts with mills and to assist the mills in meeting their special requirements; the company believed that it was essential to educate customers as to which saws would best fit their individual needs. Hence, each branch manager was to participate aggressively in consummating sales.

In the control of the sales force, it was decided to place all responsibility on the branch managers. The company was to cooperate in hiring the salesmen, except for vacancies which occurred at distant branches. At the distant points the branch managers were to be given authority to hire salesmen in order

that there be no risk of delay in maintaining the sales force constantly at the required strength.

97. ALDRIDGE ADDING MACHINE COMPANY¹

BRANCH CONTROL OF CREDITS AND COLLECTIONS. This manufacturing company distributed its products through 120 branches. Since the main office's control of credits and collections either delayed delivery or caused it to be made before the customer's credit had been approved, the company finally decided to make the branch managers responsible for credits and collections.

UNIFORM ACCOUNTING SYSTEM. The branches adopted a uniform accounting system so that the main office could keep control accounts.

In developing a national market the Aldridge Adding Machine Company had established branches in 120 leading cities. The centralized credit and collection facilities of the home office had been enlarged to take care of the additional business as the number of branches increased. It had been observed by the management, however, that the organization had become unwieldy for centralized credit and collection control. Collections by mail were not entirely satisfactory, and complaints were received from outlying branches that the centralized credit department had delayed deliveries. Because of the need for haste the local branches frequently made deliveries before the customer's credit was approved.

The Aldridge Adding Machine Company made adding machines, calculating machines, billing machines, and bookkeeping machines in many sizes. These products were sold to railroads, banks, industrial and public utility companies, and wholesalers. Prices of the machines ranged from \$125 to \$1,050.

The collection work was complicated by service and repair charges. Collections from a customer did not cease with the remittance for a new machine. Ribbon and paper sales, as well as repair and maintenance service, followed the sale of each machine until it was retired from active service. One of the largest branches in 1923 had between 4,000 and 5,000 accounts.

¹Fictitious name used for purpose of disguise.

To alleviate the situation, the general sales manager of the company created eight geographic districts or divisions and appointed a district manager in each to supervise the branches. The divisions were centralized credit and collection stations for the branch agents in contiguous areas. All billing, collecting, and granting of credit was done from the central division stations. The division managers also were responsible for inventory control in their jurisdictions. The company shipped machines to the branches on consignment, and the branches sold them on the company's account. Furthermore, the district managers traveled in their districts and reported unusual situations or pressing problems to the home office.

This arrangement did not overcome the difficulties experienced under the centralized control. The only reduction in delivery time was through more rapid mail service between the branches and the district office. Branch managers continued to complain about the length of time required to secure decisions on the amount of credit to be granted, and the practice of delivering machines before the credit of customers had been approved was continued. It was apparent that the district managers had responsibility but insufficient authority. Inasmuch as the collection situation had been improved little by the creation of the district offices, the company eliminated the districts and made the branch managers responsible for stock control and for credit and collection functions. Problems which the district managers had discovered in their territories and reported to the company did not lend themselves to satisfactory solution by mail. In addition, the district managers were out of touch with factory conditions. It was decided, therefore, to have the district managers operate from the home office. In this way they could conduct their surveys and inspections when fully cognizant of factory conditions and could solve problems at the factory in conference with company executives. By placing credit and collection control in the branches, the company overcame the delivery difficulties.

A uniform accounting system was adopted in all branches so that control accounts might be kept at the home office. To minimize the work of the branches in credits and collections, the sales accounts, which formerly were separate, were consolidated with the repair and service accounts. This consolidation of

accounts not only minimized work but eliminated confusion in the trade, since customers had been puzzled by the receipt of two statements.

At the time authority was given the branch managers to approve credits and make collections, there were 160 branches. After the plan had been in operation three years, the number of branches had increased to 220, and no difficulties had arisen of sufficient consequence to cause consideration of any change.

98. HAMPTON CALCULATING MACHINE COMPANY¹

BRANCH STATISTICAL CONTROL OF SALES FORCE. In 1921 one of the company's branch managers wished to devise a system of allocating branch overhead to each salesman's territory in order to obtain accurate statistics on the relative value of salesmen and of territories.

ALLOCATION OF BRANCH OVERHEAD. The manager finally decided to allocate the overhead expenses of the branch according to the proportion of individual sales quotas to the branch quota. An advantage of this plan was the fact that quota statistics were available early in the year.

(1921)

In 1921 a branch manager of the Hampton Calculating Machine Company concluded that the statistics compiled in his office on the cost of obtaining sales were insufficient to provide the basis for sound conclusions as to the relative value of salesmen and territories. The direct sales expense was assigned easily to a salesman or territory, but no provision was made for the allocation of indirect branch expense, which included rent, heat, light, insurance, depreciation, power, and a portion of telephone and telegraph expense and postage. The branch manager, therefore, desired to select an equitable basis for distributing these indirect expenses to individual salesmen's territories. He deliberated on two possible bases: actual sales, and sales quotas.

The branch manager was responsible for a territory covering six counties, with a total population of over 1,000,000. These counties included one city of nearly 500,000 population and two cities with a combined population of 350,000. The branch employed 18 salesmen paid on a commission basis, each of whom was responsible for a well-defined territory. Each salesman was

¹Fictitious name used for purpose of disguise.

charged with all expenses which could be allotted directly to his territory. These expenses included delivery charges, mailed advertising material, and other charges, except salesmen's traveling expenses, incurred in the sale and delivery of Hampton machines. The salesmen's commissions were placed at a figure sufficiently high to enable them to realize fair earnings after defraying traveling expenses.

The Hampton Calculating Machine Company worked out for each of its 220 branches a yearly sales quota, based on the number of business establishments, population, and past sales. The quota for each branch was subdivided by cities with over 25,000 population, by counties, exclusive of those cities, and by lines of machines. The company made four groups of machines in a variety of sizes: adding machines, calculating machines, billing machines, and bookkeeping machines. The quota for each salesman was determined easily by assembling the figures for his territory.

One method for allocating general overhead with which the branch manager was familiar was on a basis of sales. Under this plan, total sales for the territory of the branch were taken as the basis, and the percentage of overhead assigned to each salesman was the percentage of his sales to total sales, regardless of the sales quota. This method, however, did not appear logical, inasmuch as the branch manager believed that if a salesman sold twice his quota, there was no justification for charging his territory with twice its proper proportion of the overhead. Cost records showed that overhead did not increase in proportion to sales, especially after the quota had been reached. The distribution of overhead as a percentage of sales, furthermore, did not locate the real source or extent of territorial profit and loss. The territory which was really unprofitable was the one in which sales failed to reach the point necessary to absorb the proper share of the overhead. In such a territory, however, if overhead were distributed according to sales, the amount of overhead would decrease with the amount of sales and the lack of profitability of the territory would be obscured. Conversely, a territory which showed a rapid increase in sales should be credited with extraordinary profits; these would be lessened, however, if the amount of overhead charged varied with the sales. In effect,

therefore, territories which increased their sales substantially above their normal quotas were forced to bear a portion of the overhead which properly was chargeable to other territories whose sales fell below the quotas. Then, too, allocation on a basis of sales could not be made until the end of an accounting period, and consequently did not provide figures which were available sufficiently early for the most effective control.

The other method suggested was to allocate indirect expenses on the basis of sales quotas regardless of sales made. Under this plan, the branch sales quota was taken as the basis, and the proportion of that quota assigned to each salesman was the proportion of overhead to be borne by that salesman. The quotas indicated the points which sales should reach to make the respective territories fully profitable. Figures of cost were compiled on this basis for the various territories to the beginning of 1920, and it was found that the results afforded an excellent means of judging the contribution made by each salesman and territory to the profit of the branch. The results under this method were available much earlier than under the other, since the sales quotas were known before the sales were made. Consequently, check-ups could be made easily from which the branch manager could formulate plans to improve territories and salesmen that were falling below their quotas and, therefore, contributing less than their proper share of profit.

The branch manager decided to allocate overhead expenses on the basis of sales quotas.

99. TINKHAM, LITTELL, INCORPORATED¹

SEGREGATED SALES ORGANIZATION FOR UNRELATED PRODUCTS. The company's seven unrelated lines of products were sold through branches, each of which carried only one line. In important sales areas, several branches were necessary. Customers who purchased from more than one line were visited by a salesman for each line.

CONSOLIDATED SALES ORGANIZATION. The company decided, in 1918, to sell all lines through one branch in each district. "Consolidated" salesmen took orders for all products, but each branch had a few specialists to visit the largest purchasers of individual lines.

RE-SEGREGATION. Although the plan of consolidated sales organization had

¹ Fictitious name used for purpose of disguise.

succeeded experimentally in one district, it was unsatisfactory as a general policy. Confusion and failure to attach specific responsibility to salesmen resulted. There were increases both in aggregate profits and in the ratio of selling costs to net sales. Consolidated and special salesmen duplicated visits. In 1921 the company decided to return to a modification of the plan whereby the sales organization was segregated by lines.

(1921)

Tinkham, Littell, Incorporated, decided in 1918 to consolidate the sales forces and sales branches of its seven lines, in order to eliminate duplication of sales effort. The company originally manufactured one line but later purchased plants which made six unrelated groups of products. The classes of customers and the number of sales branches maintained for each line were as indicated in Table 31.

TABLE 31

TYPES OF CUSTOMERS AND NUMBER OF SALES BRANCHES, ACCORDING TO LINES OF PRODUCTS, OF TINKHAM, LITTELL, INCORPORATED

Lines of Products	Customers	Number of Sales Branches
"A"	Coal, iron, and copper mines, stone quarries, public improvements, and railroads	12
"B"	Sixty per cent automobile manufacturers, 40% toilet goods and specialty manufacturers	
"C"	Automobile and furniture manufacturers	3
"D"	Wholesalers	4
"E"	Important manufacturers	2
"F"	Cotton mills and other textile plants	2
"G"	Paint manufacturers	4
	Total number of branches	32

For several years the company had been dissatisfied with what appeared to be costly duplication of sales effort; separate sales branches were operated for marketing each of the seven groups of products. In Chicago, for example, there were five separate offices, each with a sales force for a single line of products of Tinkham, Littell, Incorporated. The organization prior to 1918 was as shown in Chart 3.

Each of the seven lines was sold by a separate sales organiza-

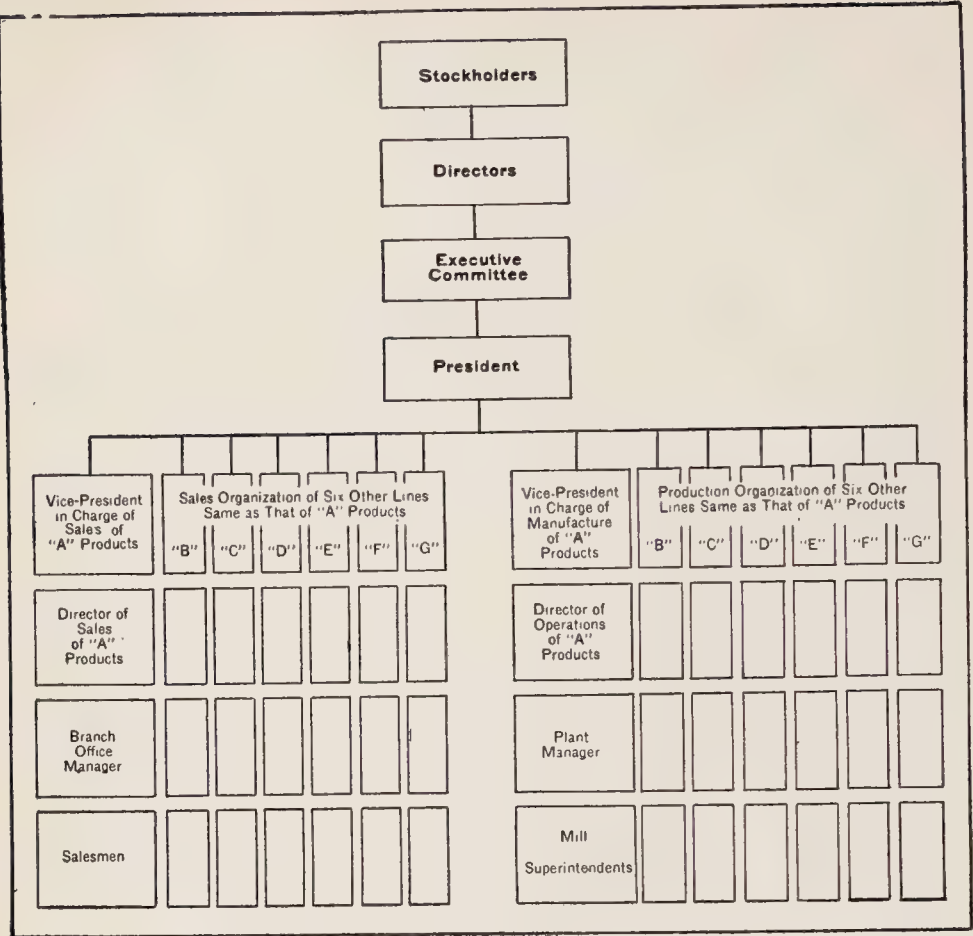


Chart 3: Sales and production organization prior to 1918

tion, with a vice-president in charge. Control of production was separated from control of sales for each line. A director of sales at the home office controlled the branches. Every branch manager was an expert in the line sold by his branch, and salesmen were specialists in those products. It was necessary that salesmen from different branches call upon those customers who required products in more than one of the company's lines, since each branch carried only one line. When the company attempted to make sales in a small industrial center where there was only one user of a line of products, a special salesman was sent to the prospective customer; this representative, however, did not call upon buyers of products in the company's other lines. A different salesman was sent to the same community to sell each line of products.

Executives of the company desired to reduce expense by eliminating visits of separate salesmen to individual buyers who purchased more than one line. This could be accomplished by permitting one salesman to secure all orders from customers whose orders in separate lines were not above the average.

The decision was to experiment in the Jamestown district, because a representative volume of sales was made there, and the industries were diversified. The branches for the several lines in that district, consequently, were combined into one branch office under a general sales manager. The task of selling the various lines to all customers, except those whose orders were of special importance because of their size, was given to consolidated salesmen who sold all the company's products. Specialists in each line were retained to solicit orders from the latter group of customers.

The experiment apparently was a success. It resulted in an increased total volume of sales and in the development of new accounts. Several industrial companies which, before the experiment, had bought only one product from Tinkham, Littell, Incorporated, became purchasers of more than one of its lines. The reason usually was that the volume of purchases in the additional lines was so small that it had not been advisable for salesmen in those lines to solicit such orders under the former organization. Representatives were enabled to call upon customers whose annual purchases in a single line were not sufficient to warrant a call under the original plan, but whose combined purchases justified a salesman's attention.

Because of the success of the Jamestown plan experiment, the principle of the plan was adopted as a national policy in 1918. The sections of the arrangement pertaining to branch offices and sales routes had to be adapted to territorial conditions, but in general the new plan was as indicated in Chart 4.

Under the Jamestown plan the marketing of the seven lines of products was centralized under the general director of sales. In the former organization the seven different directors of sales, one for each line of products, had reported to the vice-president who was in charge of that line. The Jamestown plan did not change the number of directors of sales at the central office. They were made responsible, however, to the general director

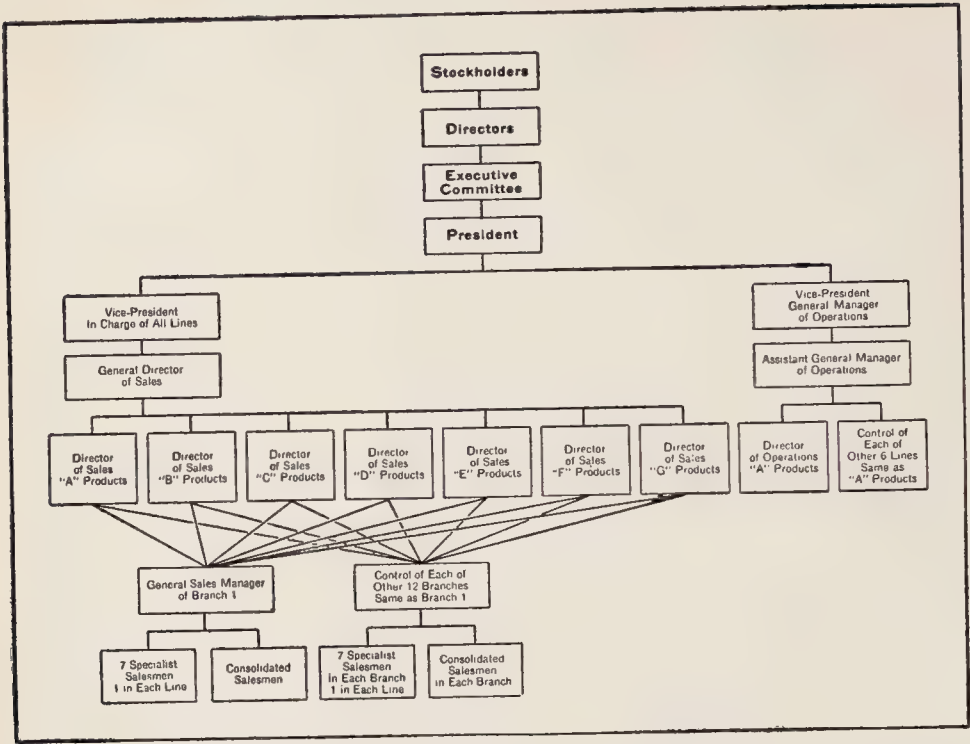


Chart 4: Jamestown plan of sales and production organization, 1918 to 1921

of sales. The plan provided for the centralization in each district of sales supervision and control for all lines in one branch office. The immediate result was the reduction in number of branch offices from 32 to 13.

Under the Jamestown plan the consolidated salesmen called on customers whose total purchases in any line, including purchases from competitors of Tinkham, Littell, Incorporated, were large enough to justify one or two calls a year. Special salesmen were retained at the branches to sell single lines to customers whose total volume of purchases in a line from all producers was large enough to justify from four to six calls a year.

Although the experiment in the single district indicated that the plan had the advantages of reducing the duplication of sales effort and of increasing the total volume of sales to individual customers, it did not succeed as a national policy. Soon after the adoption of the Jamestown plan, reports came from three of the large branches that, because of unfamiliarity with the technical qualities and uses of such varied products, one man could not sell successfully all the lines. Unless the purchases of a

customer were sufficient to justify the visit of a special salesman, the buyer did not receive the advice of a highly skilled technician until the consolidated salesmen encountered difficulties and sent for a specialist. It appeared, furthermore, that different types of salesmen were needed to sell to different types of purchasers. The man who sold most successfully to buyers of "A" products was not always so well equipped to sell to buyers of other lines. Consolidated salesmen frequently had favorite lines of products which they emphasized to the neglect of others. This showed, incidentally, the line of products for which each salesman was best adapted and proved that several of them had been selling the wrong lines under the original arrangement.

Another weakness of the Jamestown plan was the centralization, in a general director, of sales authority which was delegated to seven subordinate executives called directors of sales. In turn, an attempt was made to pass this control to the centralized management of each branch. The manager of a branch was responsible for the sales of the specialists as well as of the consolidated salesmen. The problems of supervision of the latter salesmen by the branch manager and the difficulties in selling were caused in part by the fact that, in general, each line of products was used in a separate industry. The attempt to direct the sale of seven unrelated lines, through one branch manager who received his authority from seven directors of sales, resulted in confusion in several branches. The company was unable to attach responsibility to the individual salesmen for changes in the volume of sales.

In order to make intensive efforts to secure small orders, an increase in the sales force was necessary, rather than a reduction as had been anticipated. It was found that there was no economy even in floor space used for branch offices. In the three largest branches, new officials had to be appointed for administrative purposes; the duplication of sales supervision increased selling costs. Despite the elimination of 19 branches, the ratio of selling costs to net sales increased and the ratio of net profit decreased, but the amount of total profit in dollars increased during the operation of the Jamestown plan because the aggregate volume of sales was greater.

The chief objection to the Jamestown plan was the inability

of the executives to prevent the solicitation of orders from the same customers by consolidated salesmen and by specialists. A consolidated salesman, for example, might call upon a prospective customer, who had not been solicited previously for orders in one line, and secure an order for products in that line large enough to place the purchaser in the class of customers reserved for special salesmen. The consolidated salesmen, however, frequently did not refrain from securing the subsequent orders of customers whom they had interested in the company's products. These customers, consequently, were solicited for the same order both by the consolidated salesmen and by specialists. This difficulty obtained to an even greater degree with a company which bought in varying quantities and from more than one line of products of Tinkham, Littell, Incorporated, because the customer would be visited by one consolidated salesman and several specialists.

These administrative difficulties of the Jamestown plan led to the conclusion that it should be discarded and the original sales organization restored. Company opinion, however, was divided. The former arrangement had been unsatisfactory because of the costly duplication of sales effort. Yet responsibility could be placed definitely under a system organized according to products; each salesman was responsible for the sale of one line in one territory; straight lines of authority ran directly from the president to the salesmen. It was anticipated, however, that discontinuance of the Jamestown plan might have an unfortunate effect upon the morale of the sales organization. A return to the original system would necessitate in the three largest branches the reduction of administrative officials, unless they could be made branch managers for individual lines. Objection to the change came from those districts in which a large volume of small orders had been secured. In those territories the company previously had not been able to develop such orders, but the Jamestown plan had been successful in reaching buyers who purchased in small quantities.

Supporters of the Jamestown plan, furthermore, pointed out that it had been instituted in 1918 when all costs had been abnormally high and had continued to increase. In 1921, when its discontinuance was suggested, the volume of sales was small

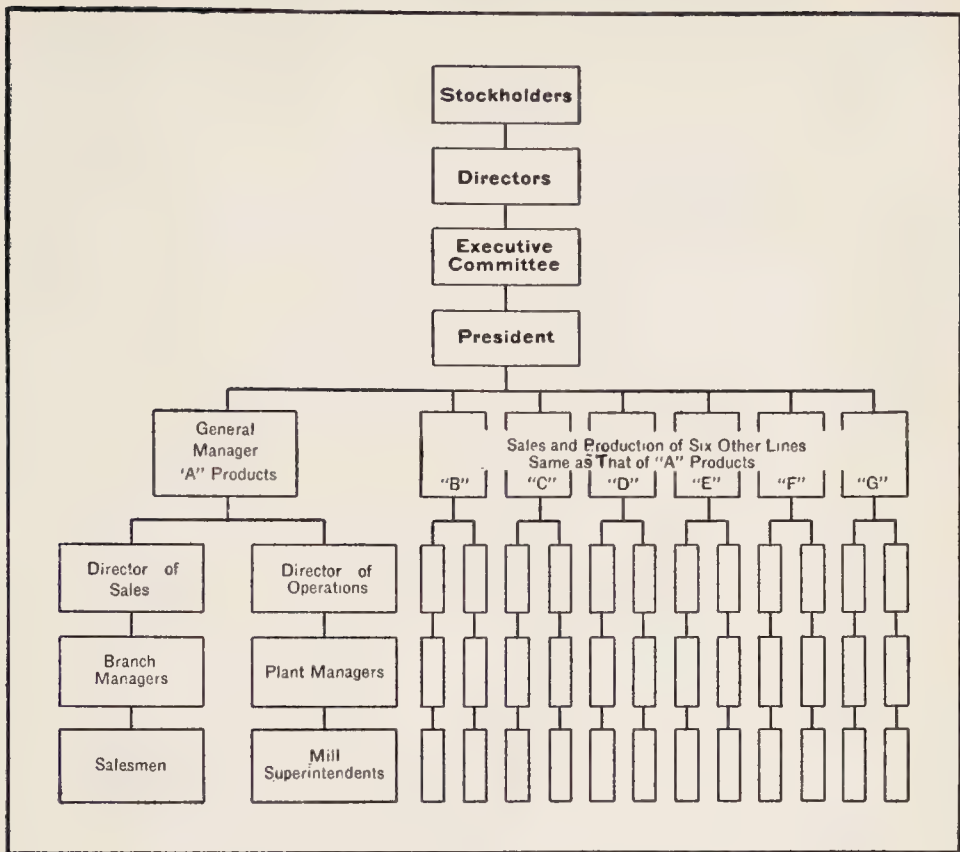


Chart 5: Sales and production organization, 1921

in comparison with the costs of labor and supervision. The plan, therefore, had been used during a period of extraordinary fluctuations. Under improved conditions, the percentage of selling costs might be expected to decline because the organization would not have to be expanded in proportion to an increased volume of sales. In addition, the system had been costly to install; buyers had become familiar with it, and another change might suggest to them that the company's organization was unwieldy.

In October, 1921, however, the company decided to operate under a modification of the former organization, as shown by Chart 5.

The third plan concentrated control of manufacture and sale of each line in one individual. The new arrangement coincided with the original plan in that the sales control of all lines was decentralized, and each branch with its sales force sold only one

line in a specified territory. Thus the consolidated offices and salesmen were eliminated. Several branch offices which had been closed had to be reopened.

A difference of opinion remained among the officials of the company as to the relative advantages of the third plan and the Jamestown plan of organization. Several executives continued to assert that a modification of the Jamestown plan would eliminate duplication of sales effort without the disadvantages which caused the change to the third plan. They were convinced that eventually some form of the Jamestown plan would have to be restored.

100. HANDEL FOOD PRODUCTS COMPANY¹

MALADJUSTMENT OF SALES EFFORTS. The company manufactured special feed for all varieties of live stock. Its salesmen solicited orders for all the products from retailers. The fact that a salesman frequently secured more orders for one group of products than for the others resulted in numerous transfers of salesmen and decreased earnings.

PRODUCT SPECIALISTS. The company decided, therefore, to appoint a specialist for each product to aid the salesmen.

(1920)

In 1920, after 20 years of operation, the Handel Food Products Company of St. Louis was reorganized in order to secure increased production and sales. A proposal was made to establish product specialists to assist the sales force to sell each product.

The company produced refined foods to be mixed with ordinary animal foods. The important products included preparations which were mixed with foods for poultry, hogs, dairy cattle, beef cattle, horses, and other live stock. These products were manufactured in six mills located in various parts of the United States. Orders were filled by shipment from the nearest mill.

The company also produced a cereal breakfast food, sales of which represented a small proportion of the company's total sales. A department manager, assisted by a sales force, had charge of the marketing of that product. It was sold to wholesalers and retailers.

¹Fictitious name used for purpose of disguise.

The animal foods were sold in carload lots, f.o.b. consignee, sight draft bill of lading attached, directly to retailers, who distributed to consumers. The company attempted constantly to improve its animal foods and to encourage retail distributors to adopt the most effective merchandising and advertising methods. The company's salesmen explained to retailers the importance of increasing their rates of stock-turn in order to secure higher profits.

The sales department was divided according to products, with a general sales manager in charge of the entire department. Under him were separate divisions, each directed by an assistant sales manager and responsible for the sale of one type of animal food. There were eight sales territories, which included all the United States with the exception of the Pacific Coast. A supervisor was stationed in each territory to oversee the work of the salesmen.

Each salesman solicited orders for all products. Each salesman was paid a salary, commission, and bonus, dependent upon his sales volume. Friction occasionally was caused when sales of one type of product in a district were less than that product division expected. For example, when the salesmen in the Wisconsin dairy district obtained effective results in marketing poultry feed, but not in securing orders for dairy feed, the head of the dairy feed division transferred to that district a salesman who was skilful in marketing dairy feed. Such action worked to the detriment of the sales organization, because it was taken as a reflection on the men's ability, and because it seemed to decrease the opportunities for sales and extra remuneration in the district.

It was proposed, therefore, that the company should employ a specialist for each product who should be equal in authority to the district supervisors. These men were to operate under the vice-president in charge of production. Their duties included research to develop the quality, sales possibilities, and usefulness of their individual products. They also were to work in conjunction with the advertising department to arrange publicity for each product. It was planned that a specialist should go into any sales territories where he deemed it advisable to aid the salesmen in increasing distribution of the product which he repre-

sented. Further than that, specialists continually were to be developing the selling points of each product. Thus there would be a constant scientific support from the main office to assist the sales organization. The cereal division, however, was to remain unchanged.

The district supervisors were paid salaries, and the product specialists were to be paid in the same way. Their employment necessitated the expenditure of approximately \$40,000 annually. The company maintained a chemical research staff in connection with the advertising department. Conceivably, that department could be developed to render approximately the same service, in cooperation with the general and assistant sales managers, as could the specialists. The latter, however, would be able to confer with all sections of the company, to study methods of overcoming difficulties, and to serve as an effective link between the production and sales functions. Under the authority of the vice-president in charge of production, they could recommend adequate scheduling of the output in order to assure prompt delivery. These factors were of advantage in promoting the sales and uses of the company's products.

It appeared, moreover, that although the sales and advertising departments did not have the time or opportunity to perform the work to be assigned to the specialists, friction might occur when the specialists were given authority parallel to that of the district supervisors. Without such authority, however, the specialists inevitably would be hampered in their work. Their contemplated activities were of a functional nature and likely to arouse resentment among the salesmen, when it was necessary to engage in actual sales and demonstrations.

Because of the straight salary plan, however, there was no incentive for the specialists to compete in any way with the salesmen, and the company decided to employ suitable men as specialists. After three years' experience the company was satisfied that the specialists were a necessary adjunct to the manufacture and sale of scientifically prepared stock feed. There were no significant difficulties in securing the cooperation of the salesmen with the specialists, while the latter were able to furnish material assistance in the improvement and distribution of the company's products.

101. DRYDEN GAUZE COMPANY¹

EXPANSION OF MARKET. The company originally manufactured absorbent cotton and gauze and distributed them mainly to hospitals. After the World War, the company began to emphasize sales of cheese-cloth and bunting to dry-goods wholesalers and retailers.

DIVISION OF SALES DEPARTMENT BY LINES. After two years, dry-goods sales were only 33% of the total. The company decided, therefore, to divide the order division of the sales department into two sections, one for each line, with a manager in charge of each.

The Dryden Gauze Company manufactured absorbent cotton and gauze which it distributed nationally. Hospitals purchased 90% of the surgical dressings either in bulk or in packages, and dry-goods wholesalers bought the remaining 10%. There was little difference in the processes of manufacture of gauze and cheese-cloth; consequently, whenever the company had an excess of bulk gauze, it had sold the gauze as cheese-cloth to dry-goods wholesalers.

During 1915 and 1916 the capacity of the company's plant was increased extensively not only to fill war orders, but also to provide for natural growth. After the World War, the company had to augment sales. Competitors manufacturing minor lines of surgical dressings had major lines of cheese-cloth and bunting. Officials of the Dryden Gauze Company believed that the logical way to secure additional distribution was to produce bunting and to increase the sales of cheese-cloth to dry-goods wholesalers and retailers. This necessitated no change in control of factory operations, but suggested a division of the sales department because the types of customers were dissimilar.

The company had twelve salesmen, seven of whom were also managers of branch offices; from one to three salesmen worked from each office. Every branch carried a small stock to supply hospitals in emergencies. There were 3,000 customers who were visited four times per year by the same salesmen; it was unnecessary to increase the sales force in order to develop the sales to dry-goods wholesalers and retailers. The factory was managed under the Taylor plan, and principles of control in this system also were used in the sales department, which was divided into three sections. The order division was responsible for the

¹Fictitious name used for purpose of disguise.

details of filling orders and for correspondence with customers. The advertising division controlled sales promotion as well as advertising. The administration division supervised the branches and received routine reports from the salesmen. The expected volume of dry-goods sales did not permit the creation of three separate departments for that line.

This dual functional organization continued for two years after the company began to promote dry-goods sales. At the end of that period, these sales were 33% of the total volume. The sales manager believed that the rate of increase was too slow and endeavored to ascertain the cause. He found that many problems in the development of dry-goods sales were receiving inadequate attention, since the salesmen from force of habit concentrated on the hospital line. No one in the organization was familiar with the market for the new line or with the competitive conditions that existed. For example, there was only one price list for bulk bandages and cheese-cloth. Occasional price revisions in the hospital line were prompted by competition. Whenever the company changed the price of gauze, it also altered those of cheese-cloth and bunting automatically, whether or not conditions warranted the change. Salesmen, furthermore, were not making sufficient efforts to introduce these products to wholesalers. Market conditions for dry-goods were unlike those for hospital supplies, yet no provision had been made to inform salesmen of the differences.

Since it was too costly to have a salesman for hospital supplies and another for cheese-cloth and bunting in the same territory, one man was made responsible for each line at the main office. They were in reality assistant sales managers but were called division heads. All correspondence and orders which came to the main office were sent to the appropriate one of these two departments. No change was made, however, in the advertising and administering divisions.

The new organization was more flexible and permitted concentration on each line. Prior to the increased sales of the dry-goods line, the sales manager had visited the branch managers and assisted them in obtaining large accounts. With the additional sales, however, it had been impossible for him to call upon them so frequently as conditions required. The new organiza-

tion enabled the department heads to cooperate more closely with the branch managers. It also allowed the company to study the competitive conditions in the dry-goods market, to specialize in that type of sales, and to capitalize its own experience to better advantage by an exchange of ideas and methods between territories. In addition, it insured adequate treatment of minor problems which previously had been neglected and had caused sales resistance.

102. OBERFIELD SHOE COMPANY¹

CONTROL OF SALES FORCE. The company's 45 salesmen sold its branded and unbranded medium-price shoes for men, women, and boys directly to retailers. Separate exclusive agencies were granted for each of the two brands in important trading centers. In order to judge the salesmen's effectiveness and to control their activities, the company decided to install a card system which provided statistics on population and annual sales for each community with a shoe store.

(1921)

The assistant sales manager of the Oberfield Shoe Company recommended, in 1921, that his department records of sales territories and salesmen, which were compiled from accounts receivable and salesmen's lists of prospective customers, be discontinued and that statistical records based on the towns and cities of the United States be substituted.

The Oberfield Shoe Company, established in 1902 to manufacture men's, women's, and boys' medium-price shoes, sold its product through wholesalers until 1908. At that time, however, the company adopted the policy of employing salesmen to sell directly to retailers. The company manufactured two lines of branded and one line of unbranded shoes. Exclusive agencies were granted in trading centers for each trade-marked line of shoes. Unbranded shoes were sold wherever possible to other retailers. Thirty salesmen were employed to secure initial distribution through visits twice a year to the retailers in 30 different sections of the United States.

The plan was so successful that the number of salesmen was increased to 45. The company advertised its shoes nationally

¹Fictitious name used for purpose of disguise.

TOWN _____										COUNTY _____										STATE _____					
KNIGHT BRAND										BOYLSTON BRAND										UNBRANDED					
YEAR	Men's		Women's		Boys'		YEAR	Men's		Women's		Boys'		YEAR	Men's		Women's		Boys'						
	S*	F†	S	F	S	F		S	F	S	F	S	F		S	F	S	F	S	F					
1921							1921							1921											
1922							1922							1922											
1923							1923							1923											
1924							1924							1924											
1925							1925							1925											
1926							1926							1926											
1927							1927							1927											
1928							1928							1928											
1929							1929							1929											
1930							1930							1930											
1931							1931							1931											
1932							1932							1932											
1933							1933							1933											
*Spring †Fall																									

Form 22: Sales record card

and assisted its salesmen as much as possible with advertising displays and dealers' helps which were distributed to actual and prospective customers.

The sales department, however, had no means of ascertaining whether or not the salesmen visited prospective customers a second time. The records did not indicate specifically the potentialities of the entire market or of the territorial districts where the company had distribution. An energetic salesman in a mediocre territory might secure more customers than another salesman in a more advantageous territory. The record based on the accounts, however, indicated that the territory with the smaller potential sales was more profitable to develop than the territory with the larger potential sales. The prevailing method, moreover, did not show conclusively whether or not a territory should be divided further.

The assistant sales manager outlined the following method, which was used by another company for directing sales. The "sales record card," shown as Form 22, was the main card of the system.

One of these cards was prepared for every city and town in the United States where there was a shoe store. On each card was placed the name of the city or town and the state in which it was located, its population, the name of the salesman who visited it, total sales by lines and classifications irrespective of the number

TOWN _____		STATE _____		KNIGHT BRAND _____		SALESMAN _____							
CUSTOMER _____		STREET _____		POPULATION _____									
Spring	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931
Men's													
Women's													
Boys'													
Total													
Fall													
Men's													
Women's													
Boys'													
Total													
Credit	Rating	Dissatisfied	Out of Business	Agency Changed	Agency Cancelled	Sales Dept.	Promotion Effort						

Form 23: Customer's account card

of agencies, and the sales by seasons for 12 years. These cards were classified alphabetically by states. With the cards filed in this manner, the amount of sales by states could be ascertained easily, and the cards could be segregated by sections in order to obtain sub-totals. The color of the cards showed the population; for example, white indicated towns of less than 500; cream, between 500 and 1,000; blue, between 1,000 and 2,500; and pink, 500,000 or over. This permitted the sales promotion department to select quickly the places where sales were small in proportion to the population.

The information on the card was accurate. It was secured from the sales record book in which was entered the amount of each sale with the retailer's name and address. These cards were filed as permanent records. On the back of each card which showed an unsatisfactory sales record was indicated a list of reliable stores which might purchase shoes. The salesman then could be consulted and prospective customers suggested.

In conjunction with the sales record cards, account cards such as Form 23, were used.

The side of the card presented was used for future deliveries. The reverse side indicated orders from stock for immediate delivery. The sales promotion manager referred to these records to learn if each purchaser was buying what was judged to be an adequate quantity of shoes. If not, letters were sent both to the retailer and to the salesman.

A "salesman's record of sales card," similar to the one shown as Form 24, also was part of the system. Each territory received the cards for the cities and towns in his territory. After he had

TOWN			STATE		POPULATION			SALESMAN			
YEAR	20	21	22	1923		1924		1925		1926	
SPRING				S		S		S		S	
MAIL				M		M		M		M	
FALL				F		F		F		F	
MAIL				M		M		M		M	
TOTAL				T		T		T		T	
IF NOT SOLD FOR SPRING, STATE WHY											
IF NOT SOLD FOR FALL, STATE WHY											

Form 24: Salesman's record of sales card

visited the place indicated on a card, the card was mailed to the main office for the sales manager's perusal. Visits were made in the fall and the spring. The statistical information on these cards could not be taken as authoritative because customers sometimes changed or canceled orders after the salesman had reported them. The purpose of the cards, however, was to induce salesmen to increase their efforts to secure sales that equaled or exceeded former sales in each city or town.

On the reverse side of the card were entered the names of customers, the date on which the town had been visited last, and the names of any prospective customers from whom orders had been solicited.

In addition to the salesman's record cards, each salesman was given "prospective account cards" for his territory, similar to that reproduced in Form 25.

It was returned to the office by the salesman whenever a prospective customer was interviewed, and became the basis for entries on a "prospective customer card," of which a sample is reproduced in Form 26.

The prospective customer card was carried by the salesman on each trip until the prospective customer was interviewed, then the card was returned to the office. In this manner, the company controlled season after season the visits of its salesmen to prospective customers, until a representative secured an order

TOWN _____			POPULATION _____			STATE _____		
NAME _____			SALESMAN _____					
Card Received _____			Agency Established _____					
Buyer's Name _____								
Exclusive Shoes			MEN'S:		LINES CARRIED			
Haberdashery								
Clothing			WOMEN'S:					
Dept. Store								
Class			CHILDREN'S:					
High	Medium	Cheap						

Form 25: Salesman's prospective account card

or decided that it was useless to make additional visits. In the latter instance, the card was removed from the file.

Objections were raised to the suggested method of directing sales. It was thought too detailed by a few executives. Many of the cards would not be used because it was impractical for the Oberfield Shoe Company to attempt to reach every town in the United States, on account of the expense involved. Salesmen disliked record cards and the close supervision entailed. The plan also necessitated additional expense for supplies and an increased clerical force.

Justification of the plan, however, was based on the fact that the company manufactured men's and boys' medium-price shoes, which could be sold in every city and town in the United States. Such cards gave detailed information about each town, and the sales by lines of shoes for 12 years; these items were of value to the salesmen as well as to the company. The facts presented the reasons for decreased sales in a specific locality for several seasons. The cards could be used in an analysis of the sales territories. They would indicate when a territory should be divided. Prospective customer cards set forth information needed by a company in distributing the most advantageous type of advertising material and in writing satisfactory letters. The part-time services of one or two girls only were required. The cards, furthermore, permitted the control of all salesmen and the intelligent direction of sales efforts.

The proposed system, therefore, was adopted, because the sales manager was convinced that the cards were of significance

The prospect whose name appears below has been given us by you. We have recorded same and a check will be kept on this name until you ask us to remove same from our list, or until the prospect is sold.

Name..... Town..... State.....

Date Called1922192219231923

Date Sold1924192419251925

Amt. Sold1926192619271927

This card must be returned each season with date filled in when call was made. When sold fill in space at left.

Salesman.....

Form 26: Prospective customer card

in indicating the potential market for the company's shoes and in directing the sales efforts.

103. MOISSON SHOE COMPANY¹

SALES DECLINE—BUSINESS DEPRESSION. The company's salesmen were paid commissions with fixed minimum incomes. During the business depression in 1921, sales declined and the company had an excess productive capacity.

SALESMEN'S QUOTAS. In order to obtain maximum sales effectiveness, the company decided to install a method of sales control. This provided for the establishment of quotas for each salesman. In this way comparisons with past sales, and weekly summaries of results, were made possible.

(1921)

The sales manager of the Moisson Shoe Company estimated the amount of orders which he expected each salesman to obtain during a season. The salesmen were informed individually of these estimates, when the plans for the season were being made. The sales manager, however, did not compare subsequent results

¹Fictitious name used for purpose of disguise.

with the estimates, and consequently the salesmen attached little importance to the estimates.

During the business depression of 1921, sales were markedly below the estimates, and the company contemplated adopting an accurate system of sales-force control.

The company manufactured men's and boys' shoes of medium quality, and distributed them nationally. The salesmen established exclusive agencies, when possible, in each town and city. There were two selling seasons, spring and fall. Salesmen traveled in March, April, May, and June and secured orders for shipment in August and September; from September until December 15, they solicited orders to be shipped before Easter. The company advertised in two leading national publications.

Salesmen were paid on a commission basis with guaranteed minimum incomes and with allowances for expenses. A salesman's guaranteed salary and total expenses were expected to equal 5% of his total net sales. For example, if a salesman sold \$100,000 worth of shoes annually, his expenses and salary should not be more than \$5,000. If his guaranteed salary and expenses were \$5,000, and sales only \$80,000, his value to the company was estimated at \$4,000. In that case, the company lost \$1,000, since it did not reduce his salary below the guaranty. On the other hand, if a man's sales were \$120,000, he was credited with \$6,000. Then, if his salary and total expenses were \$5,000, he was paid the difference of \$1,000 as a commission.

The company's sales had increased from \$2,500,000 in 1913, to approximately \$5,000,000 in 1919. During the spring of 1920, they amounted to \$2,800,000, but in the latter half of that year, sales declined to one-half that total. Because the company had expanded its plant capacity in 1918, the decline in sales affected its production department seriously.

Before 1921 several executives had recommended that an effective method of controlling sales should be adopted. Although it was known that 9 or 10 of the salesmen were selling 45% to 50% of the company's product, no decision had been reached, because the factory had been operating at capacity almost continually. Also, other salesmen with mediocre ability had been selling in difficult territories, and it was believed that those men could have increased their sales if they had been placed in other

QUOTAS				
Name <u>Ethan Allen</u>				
Sales	Last Year	Last Season	Estimate	Adjustments
Men's	\$ 5,600	\$ 2,100	\$ 2,300	\$ 2,900
Women's	1,200	450	600	700
Boys'	1,400	350	500	400
Total	\$ 8,200	\$ 2,900	\$ 3,400	\$ 4,000
When on Territory _____			Date _____	
Signature of Salesman _____				

Form 27: Salesman's quota sheet

districts. When the issue was raised in 1921, the following plan, which had been used by several similar companies, was outlined.

Each salesman was given an individual quota sheet on which were entered "last year's" and "last season's" sales. In the column headed "estimate" on the quota sheet, the salesman entered the total sales which he expected to obtain. This estimate was based on previous sales, population of territory, ability of the salesman, and potential sales. The salesman also stated the date on which he expected to be in the territory, and signed the sheet. This individual quota sheet was submitted to the sales manager, who adjusted the entries or approved them. After any changes had been made, the salesman was consulted, and his approval of the adjustments secured. Form 27 contains an example of an individual quota sheet.

Frequently, the sales manager wrote across the individual quota sheet, "I bet \$50 to \$25 that you will not reach this quota. WHB."

In order to benefit from the quota method, the company would need to compile sales quota figures in the central office. This work could be supervised by the sales promotion manager of the Moisson Shoe Company. The plan also required preparation of record sheets, as illustrated on the opposite page, to classify for each salesman his actual sales facts by weeks and by products. These facts were comparable with the established sales quota segregated in the same manner.

It was the practice of the companies which used this method

SALESMAN'S RECORD

Name—JAMES BLACK

Date	4 Grades Men's		1 Grade Women's		1 Grade Boys'		Grades of Men's Shoes (in Pairs)			
	Pairs	Price	Pairs	Price	Pairs	Price	A	B	C	D
8/11/23 Make.....	136	\$694.12	72	\$295.45	12	\$40.80	58	60	18	.....
8/11/23 Stock.....	47	186.92	55	202.42	.....	.....	.....	11	36	.....
8/11/23 Grand Total...	183	881.04	127	497.87	12	40.80	58	71	54	.....
8/18/23 Make.....	182	991.25	6	21.00	.....	.....	128	42	12	.....
8/18/23 Stock.....	79	337.82	11	37.85	.....	.....	12	32	32	3
8/18/23 Grand Total.....										
Make*.....	318	1685.37	78	316.45	12	40.80	186	102	30	.....
Stock†.....	126	524.74	66	240.27	.....	.....	12	43	68	3
Everything.....	444	2210.11	144	556.72	12	40.80	198	145	98	3

*Make—signifies order to be manufactured.

†Stock—signifies immediate shipment from reserve stock.

to mail periodically to each salesman a statement which was based on the salesman's record sheet and the quotas, on "accumulated sales," "quota to the date," and the percentage by which his actual sales were above or below the quota. The figures on the report were distributed according to the classifications. A statement similar to Form 28 was sent to each salesman weekly during the selling season to notify him of his progress.

With this weekly report a rank list was to be sent which indicated the standing of each salesman in regard to his quota for each classification. No actual sales figures of one man were to be given to another.

The following reasons were submitted in favor of accepting the new plan: The sales quotas should increase the sales per man because they indicated the total orders which he was expected to secure during the season. The records necessary for this system required the central sales department to compile weekly information. The attention of the management was directed to the classified sales of each salesman. The experience of other companies which had adopted this plan was in general satisfactory. The analysis of the territory, necessary for setting fair quotas, indicated the difficulties which a salesman would meet. These quotas, therefore, were of value to the salesmen

MOISSON SHOE COMPANY

Mr. Henry Todd:

Your quota to have been sold on December 8, 1925, was

\$83,750.

\$46,750 Total Men's \$14,875 Total Women's \$2,125 Total Boys'

10,340 Men's Stock 6,580 Women's Stock 470 Boys' Stock

On that date you were on record as having sold \$50,701.

\$33,698 Total Men's \$14,746 Total Women's \$2,257 Total Boys'

12,014 Men's Stock 3,027 Women's Stock 507 Boys' Stock

Your percentage of sales by grades was:

20% 1 grade	39% 2 grade	37% 3 grade	4% X grade
-------------	-------------	-------------	------------

Very truly yours,

MOISSON SHOE COMPANY

Form 28: Weekly statement of salesman's performance

because they revealed that sales frequently were limited by the nature of the territories and not by personal inability.

There were, however, these unfavorable aspects: Many salesmen disliked the method and thought it a reflection on their efforts. This attitude occasionally had prevented the use of quotas. Another shoe company had been unable to persuade its

experienced salesmen that quotas were of value. Recently employed salesmen who were unable to reach their quotas might complain that their quotas had been set proportionately higher than those for the experienced men. The clerical details of the plan were onerous.

Because of the results secured by other companies and the necessity of increasing sales, the proposed quota plan was adopted. As anticipated, complaints were received frequently from the men who had been employed recently. They stated that they encountered more competition and met more difficulties in their territories than did the other salesmen. The experienced salesmen seldom regarded the quota system seriously. The company continued to operate the plan, despite these objections, and found that the weekly notice to each man was of increasing value as a stimulus to consistent endeavor. In December, 1923, the quota system was an integral part of the sales administration.

104. LANGDON CARD INDEX COMPANY¹

INCREASE OF SALESMEN'S COMPENSATION. The company, which manufactured office supplies and equipment, employed branch office salesmen to sell its product. The company realized the need of increasing salesmen's compensation, to promote sales and retain the sales force.

BONUSES BASED ON INDIVIDUAL RATINGS AND SALES QUOTAS. Consulting engineers recommended establishment of quotas for branches and individual salesmen. The latter would receive bonuses according to attainment of graduated ratings, the degree of such attainment to be decided in each case by the branch manager on records of sales and other performance.

COMMISSIONS ON GROSS MARGINS ON SALES. In place of bonuses based on ratings, several executives suggested bonuses on sales, or payment of percentages on gross margins. Previous experience indicated that disputes over production costs, caused by the company's one-price policy, would lead to dissatisfaction and criticism of the gross-margin method.

SALES QUOTAS—GRADUATED BONUSES FOR EXCESS SALES. The company continued to pay salaries, and decided to set sales quotas. In proportion as his sales exceeded his quota, a salesman was to receive, as a bonus, an increasing percentage of his basic salary.

(1923)

¹Fictitious name used for purpose of disguise.

The Langdon Card Index Company manufactured office equipment and supplies, such as filing systems, library catalog systems, and library and museum furniture. The company also had clerical forces for special installations and listing work; single contracts for such work frequently amounted to \$25,000. Orders often were taken on contract for a year's supply of index cards and similar items. The merchandise sold included about 4,000 items, of which about 1,600 were paper products.

Sales were made directly to users through branches located in 5 major cities and 20 other cities in the United States. The company employed 250 salesmen, who were responsible directly to the branch managers. The majority of salesmen sold the company's complete line. The company maintained a thorough course of training for salesmen, which enabled them to recommend and sell systems which were suited to individual users' needs.

Sales, in 1923, were about \$7,500,000. Customers included libraries, banks, insurance companies, commercial firms, and professional men. The executive officers at the headquarters of the company set prices and dictated credit and collection policies.

During the period from 1920 to 1923, the company had effected no general increase in salesmen's salaries. In 1923 the executives realized that increased salaries were necessary in order to retain the salesmen and to continue to secure a satisfactory volume of sales. Accordingly, the management requested a firm of consulting engineers to outline a plan which would allow for payment of larger salaries to the salesmen, and, at the same time, would increase the volume of sales. During the World War, in order to secure increased production from the employees in the company's plants, the Langdon Card Index Company had instituted, under the direction of this firm of consulting engineers, a wage-payment system of bonuses. The results attained had been satisfactory. In view of this, the engineers suggested that the company introduce a system of sales quotas, and pay bonuses upon a rating, or point, system, as shown in the tentative schedule on the opposite page.

The Langdon Card Index Company believed that the sales volume attained in 1923 could be duplicated easily in 1924. For psychological effect, in order that a rating of 100 points might

TENTATIVE SCHEDULE FOR RATING OF SALESMEN BY BRANCH
SALES MANAGERS OF LANGDON CARD INDEX COMPANY

Rating Factors	Maximum Ratings Allowed Each Sales- man (in points)	Each Salesman's Points to Be Entered Here
Efficiency		
Number of calls	4	
Quality of reports	4	
Satisfactory sales service—		
Few complaints from customers	3	
New accounts secured	5	
Cooperation in interoffice		
banking, library, and promotion work	6	
Suggestions—New sales methods		
and products	2	
Personality	1	
Total, efficiency	25	
Attainment of 75% of sales quota	75	
Add one additional point for each		
1% of sales in excess of quota	00	
Total, all factors	100	

represent more than a salesman's previous attainment, the sales of the company and of the branches for 1923 were to be considered 75% of the quotas for 1924, and branch quotas of 100% were to be assigned. If, for example, the sales of a branch in 1923 were \$750,000, the quota for 1924 would be \$1,000,000. Branch managers were to assign individual quotas to the salesmen on the basis of their previous actual and potential sales. A salesman's quota was to equal his total sales in 1923 plus a proportion fixed by the branch manager in accordance with his opinion as to the potential market in the territory of the salesman; the average proportion added was expected to be one-third.

The consulting engineers outlined a progressive scale of bonuses ranging from 5% of the salesman's basic salary for the attainment of a rating of 75 points, to 20% of the basic salary for a rating of 95 points. The rate of bonus payment then increased more rapidly, and reached 35% of the salary at a rating of 110 points. The ratings on the various efficiency factors were to be left entirely to the discretion of the branch managers; there were no standards by which to award the points for efficiency. Bonuses were to be paid monthly, three months after they were earned.

For the computation of bonuses, sales were to be considered booked orders rather than billed sales and were not to include sales made for shipment into the territory of another branch. These sales usually were made through central purchasing agents of important companies for direct delivery to district branches of the purchasers. Since such sales represented only a small proportion of the company's total sales, salesmen would receive credit for them only under the efficiency rating item, "cooperation in interoffice banking, library, and promotion work."

Executives of the company who objected to the efficiency rating section of the proposed plan suggested two other possible arrangements: the payment of bonuses as outlined above but based entirely upon the volume of sales attained in excess of quotas, or the payment of a percentage of the gross margin on a salesman's sales.

In 1913 salesmen had been paid on the basis of a share of the gross margin on their sales. This policy had resulted in emphasis on the sale of products which offered a wide margin of profit and, therefore, a reduction in the percentage of expenses. Because the salesmen could quote only prices which had been established by the main office, they were interested in having the costs of the products set as low as possible. Consequently, the salesmen had criticized severely the company's method of determining costs. The company, therefore, had stopped paying a percentage of gross margin, and instead had paid salary and expenses. This arrangement had been satisfactory from the point of view of the company until the years following the World War.

In 1923, although the sales manager realized the advantages of the payment of a share of the gross margin on sales, and that the methods of cost accounting in the plant had been improved greatly, he was apprehensive lest the salesmen would continue to object to cost figures. The sales manager, moreover, deemed it inadvisable to instruct the salesmen in accounting methods. Because competition was keen and any information concerning costs that became known to competitors might work to the disadvantage of the Langdon Card Index Company, it also would be unwise to impart to the salesmen the actual cost figures.

Branch managers formerly had been paid straight salaries. The executives, however, were confident that branch managers, who were thoroughly familiar with the company's operating conditions,

were less likely than salesmen to question the methods of cost accounting. The branch managers, since they could not control the selling prices or manufacturing costs, would have to direct their efforts to increasing the volume of sales within their territories, to emphasizing sales of merchandise with a wide margin of profit, and to reducing the selling and clerical expense in their branch offices. The company, therefore, decided to pay branch managers in 1924 a share of the increase in profits obtained over those of 1923. Since it was manifestly unfair to allow a metropolitan branch manager one-third of the profits on sales of \$1,000,000 and to allow the manager of another branch one-third of the profits on sales of only \$50,000, agreements were made individually with the branch managers. This form of compensation was, in fact, an adaptation of the quota system with bonuses; the quotas, however, were the profits for 1923 rather than the sales.

The payment of bonuses in the suggested form of percentages of basic salaries was equitable only if salaries were equitable, both as between salesmen in a specific branch, and as between salesmen in different branches. Because increases in salaries were granted only after consultation between branch managers and the general sales manager, the latter was of the opinion that there would be no complaint with respect to salaries.

The rating method suggested by the consulting engineers included consideration of factors which could not be measured fairly by the amount of sales alone. Since managers were inclined to consider their salesmen as first-class, however, efficiency ratings by branch managers were likely to be biased. Salesmen, consequently, might be given an initial rating of the full 25 points included in the efficiency ratings, and, thereafter, the bonuses would depend entirely upon excess of sales over quotas. No two branch managers would rate upon the same basis and there would be discussions as to methods of rating. This was not desirable because it took time from the active management of sales. Differences in rating methods, moreover, might lead salesmen to believe that favoritism had been shown not only to other salesmen in the same branch, but also to salesmen in other branches of the company.

Payment by bonuses based only on sales in excess of quotas left the control, except for the assignment of individual quotas, entirely to the executive offices. This plan, however, like that suggested by the engineers, did not lead to emphasis upon the sale of

merchandise of large gross margin. Sales of this type of product had to be controlled and stimulated by the general office through its sales promotion department. Salesmen, moreover, were likely to emphasize the volume of sales and neglect the service features. The plan suggested by the executives did not permit complete freedom in making allowances for variations in potentialities between branch or salesmen's territories. The method of compensation would offer, however, a direct stimulus to salesmen to increase sales and probably would be easier to administer than the gross margin plan or that suggested by the engineers.

Because the resumption of the gross margin method of payment probably would be accompanied by the same drawbacks which had been encountered when the method had been used previously, the company decided against that plan.

The company finally accepted that part of the engineers' plan which provided for the rating of salesmen according to actual sales. The efficiency rating scale, however, was deemed to be too difficult of impartial administration, and was rejected for that reason. The bonuses were to be computed as percentages of base salaries, and were to be increased gradually, according to the rating plan, in proportion as actual sales exceeded sales quotas.

The provision that bonuses be paid monthly, three months after they were earned, was not accepted. The period of time which intervened between the actual booking of the orders and the payment of the bonuses was recognized to be an important factor in the effectiveness of the bonus plan. It was deemed necessary not only to stimulate the salesmen's activities, but to provide a means for keeping up their interest. Payment three months after the bonuses were earned would remove the zest of immediate reward for accomplishment. The company, therefore, decided to pay bonuses quarterly, withholding 40% each quarter as a protection against possible failure of the salesmen to maintain their yearly quotas.

Sales in the first quarter of 1924 were 18% more than those in the corresponding quarter of 1923. It became evident, from the attitude of salesmen, that an upward readjustment of quotas, of the scale of bonuses, and possibly of basic salaries, would be necessary for the year 1925.

105. MARY STUART CANDY COMPANY¹

SALES DECLINE—BUSINESS DEPRESSION. The company employed 14 salesmen on a salary basis to sell its high-grade candy. It distributed annual bonuses to the salesmen according to the company's profits and the individual records of the men. In 1921, because of the business depression, sales decreased.

TRADE CUSTOM. It seemed to be customary in the candy trade to pay salesmen on a commission basis. The company contemplated adoption of a commission plan of payment because of the possibility of increasing its sales in that way.

SALARY PAYMENT OF SALES FORCE. Because consideration of customers' needs was deemed to be more important than increased sales, the company decided to adhere to the salary payment of salesmen.

(1922)

In 1922 the executives of the Mary Stuart Candy Company entertained the proposal that the company pay its salesmen on a commission basis.

The Mary Stuart Candy Company was established in 1899 in Philadelphia. Candy of high grade was both manufactured and sold in the same shop. The company acquired a local reputation for manufacturing high-grade candy, and in 1908 decided to open a similar plant in New York City. This unit also was successful. A small candy factory then was purchased near Philadelphia, and a policy of opening additional retail stores was adopted. In 1915 the company shipped, to its own stores and to retailers, approximately 600,000 pounds of candy. By 1916, 12 retail stores had been established in cities east of the Mississippi River. Retailers in different parts of the United States frequently ordered, by mail, small shipments of candy from Philadelphia. In that year, the company erected a modern candy factory near the first one.

During the period when sales to retailers were developing, the company continued to manufacture only high-grade candy and packed it in artistic boxes. The retailers received a discount of 33 1-3% from the list price.

Coated nuts, caramels, and other confections remained fresh for several months. The perishability of candy varied, however,

¹Fictitious name used for purpose of disguise.

with the temperature of the place in which it was stored. Cold frequently turned chocolate gray, while unusual warmth melted it quickly. Because the candy was perishable, the company was compelled to adopt methods of distribution which assured the sale of fresh supplies.

After the expansion of the business in 1916, nine salesmen were employed. They were paid fixed salaries which yielded approximately the same incomes as the payments made on a commission basis by competing companies. No sales quotas were established.

Order taking was only one of the functions of the company's salesmen. They were expected to aid retailers, to insure the use of counter displays and similar advertising materials, and to select additional retailers if those who sold the candy did not have satisfactory locations and equipment. They were to follow the company's policy of cooperation with retailers by recommending suitable quantities and packages. Emphasis was placed upon the importance of restricting orders, when necessary, to avoid carrying stale supplies.

The company found it necessary in 1918 to acquire additional manufacturing space. Fourteen salesmen, instead of nine, were employed. Although sales of approximately 2,000,000 pounds were credited to the 14 salesmen in that year, more than half these orders actually were received by mail from retailers.

Both in 1919 and in 1920 more than 3,000,000 pounds of candy were sold; in 1921, however, sales declined to about 2,000,000 pounds. The retail price of candy then was reduced from \$1.50 per pound to \$1.25 per pound. The decline in sales was caused both by the business depression and by the competition of a company which was striving to expand rapidly. The exact part of the decline attributable to each influence could not be ascertained. The competing company was said to be paying its salesmen commissions on all sales.

The executives of the Mary Stuart Candy Company recognized the possibility of increasing sales by payment of commissions instead of straight salaries. The latter had not been reduced during the period of depression, and the salesmen had expressed no dissatisfaction. In December of every year, furthermore, each salesman was given a bonus of several hundred

dollars. The bonuses were variable and depended on the profits of the company and the records of the salesmen. The bonuses were distributed only as gifts, and not as additional compensation.

It seemed to be customary in the candy trade to pay salesmen on the commission basis. This, however, had not been done by the Mary Stuart Candy Company when the sales force had been established because of the opinion that the salesmen should emphasize creation of cordial relations with retailers rather than the volume of orders secured. One competing company paid salesmen on a commission basis with an allowance for all expenses and a weekly drawing account of \$50, which was based on the sale of \$65,000 worth of candy. A 3% commission was given on additional sales. If a salesman did not reach his quota, he received the minimum amount of \$50 per week.

It was stated that the commission method permitted the use of sales quotas and a careful control of the activities of each salesman. It served as an incentive to increase sales to each customer. Retailers who purchased increased quantities of candy made more aggressive attempts to dispose of it before it became stale. Each salesman was paid for the additional sales and was assured of the drawing account. This method removed the risk of complaint by salesmen that they were not paid in accordance with their worth to the company.

Several objections were raised to this commission plan. It was argued that the average retailer did not have adequate storage space for more than \$200 worth of candy. Although the company guaranteed candy against manufacturing defects only, it always replaced its candy if a consumer indicated dissatisfaction. If salesmen, because paid on a commission basis, persuaded retailers to overbuy, the latter probably would become dissatisfied with investments in slowly selling candy. If the stocks deteriorated and were sold at reduced prices because of staleness, injury to the company's reputation as well as an increase in the number of fresh boxes distributed free of charge was inevitable. The salesmen, furthermore, might resent the change from a salary basis to a commission basis during a period of depression because of the possibility of a decrease in income.

The executives of the Mary Stuart Candy Company acknowledged the advantages of the commission method of paying sales-

men and admitted that such a method should increase sales immediately. They decided, however, to continue the payment of straight salaries to their salesmen because of the perishability of the product, and the undesirable effect the change of policy might have on retailers. Sales increased annually; in 1923 approximately 4,000,000 pounds of candy were distributed. In the opinion of the executives, this increase was caused not only by improved business conditions, but also by the continuance of the salary policy, which insured careful consideration of the customers' actual needs by the salesmen.

106. BENCH PHARMACEUTICAL COMPANY¹

PAYMENT OF SALESMEN. This manufacturing company sold its druggists' supplies directly to retailers throughout the United States. Salesmen were paid salaries with drawing accounts for expenses. To induce salesmen to concentrate their efforts on products newly introduced and on those difficult to sell, the company decided to install a commission and bonus plan which provided a nominal salary and a drawing account including expenses.

(1918)

The Bench Pharmaceutical Company, of Philadelphia, manufactured druggists' supplies, which it sold throughout the United States. It paid each salesman a stated salary with a drawing account for expenses.

The company's experience showed several weaknesses in this plan. Many of the products, such as tooth paste and lotions, encountered keen competition. The company, furthermore, occasionally placed new articles on the market, under its trademark. The salary plan of compensation seemed inadequate to induce salesmen to concentrate on the new products, and on those most difficult to sell. Uneven distribution resulted. The salary increases, usually expected at the end of the year, were determined arbitrarily. In 1918, therefore, the executives believed it necessary to develop a more satisfactory method of payment.

The following plan was drawn up by the sales manager and presented for ratification. The complete list of products was divided into eight classifications. These groups were determined

¹Fictitious name used for purpose of disguise.

upon the basis of the net profit which was to be obtained from their sale. The sales manager had determined the average yearly expense which each salesman had to incur in order properly to solicit the customers of his district. This expense was to be considered as the basic drawing account for the salesman. According to his ability, the salesman was to be allotted, as previously, a stated annual salary.

In addition, however, a sliding scale of commissions was estimated for each group of products. The commissions were determined on the basis of the sales resistance encountered and the amount of profit yielded in selling the products in the classification. Commissions paid on returned goods were deducted from total commissions. An added sliding bonus was to be awarded for the sales of several specialty products. Sales quotas for these specialties were estimated. The quota for each sales district was determined by analysis of the population, magazine subscriptions, newspaper circulation, wholesalers' accounts, bank debits, and local advertising of the company. The previous sales of the company in the district were the basic figures which were qualified by these other indexes. In addition, the sales manager's estimate included such variable factors as general business conditions, the rate of population growth, and the per capita wealth.

Thus, in the special bonus group, there were several pharmaceutical products on which increasingly large bonuses were allowed in proportion to the units sold in excess of the quotas. For example, one of these products was to yield the salesman 15 cents on every case which he sold until the quota was reached. When sales exceeded the quota, the salesman received 25 cents on each additional case, until the excess was 10% of the original quota. For the next additional 10%, the allowance was 35 cents per case; in the same manner, the bonuses were increased for each additional 10%, to 45, 50, and 55 cents per case.

At the end of the year, if the commissions which the salesman had earned did not equal his drawing account plus his salary, the difference, which was paid him by the company, was to be charged against a special surplus account established for that purpose. If, in the following year, the commissions and bonuses of the salesman exceeded his drawing account and salary, then sufficient of his surplus was retained to equalize the debit of the previous

year. The special surplus account, therefore, was expected to be practically "self-supporting."

The company was to follow its usual plan of stimulating the demand for its products through national magazine, newspaper, and street-car advertising. One advantage of the plan recommended was that salesmen readily could be induced to sell those products from which the highest profits were derived by the company. The adoption of this plan, moreover, obviated the usual annual question of increasing salaries of salesmen. It also held out a constant incentive for the men to secure the maximum volume of orders, because their earnings depended directly upon the amount of their sales. This had not been the case when specific salaries were paid.

An objection to the plan, however, was the fact that salesmen were not likely to give adequate attention to the sales of low-profit articles, on which only slight commissions could be allowed. That procedure might unbalance the company's production. In addition to this, the man who possessed an excellent territory might be prone to call only on his best customers. If the Bench Pharmaceutical Company should attempt to rectify a situation of that kind by dividing the territory, it was likely to antagonize the salesmen. To overcome this disadvantage, however, the company intended, if the plan were adopted, to assign a junior salesman on salary to each district where an additional representative was needed and to credit the senior salesman with the standard commissions on such sales, less the salary and expenses of the junior salesman.

The company reserved the right to change any product from one group to another group and also to decrease or increase the territory of any salesman. Such adjustments might be necessary because of decreasing or increasing sales of a product or a district.

The executives of the Bench Pharmaceutical Company decided to adopt the plan, primarily because they believed it would induce each salesman to give his utmost efforts and to keep his expense account at a level consistent with the lowest attained in the past. At the same time, it provided him with a definite income by means of the stated salary which was part of his drawing account. The sales credited monthly to each salesman and the

Representative Mr. _____ Territory _____ No. _____ Sales Report for _____ 192 _____

Code	Groups	Personal Sales	Mail Orders	Total Gross Sales	Allowances for Credits or Returned Goods	Total Net Sales	Commission Due Salesman
1	Specialties H. H. Products Total						
2	Biologicals						
3	Board of Health Biologicals						
4	Listed Phar- maceuticals H. H. Products Total						
5	Listed Chemicals and Drugs H. H. Products Total						
6	Bulk Phar- maceuticals H. H. Products Total						
7	Bulk Chemicals and Drugs H. H. Products Total						
8	Staples H. H. Products Total						
Total H. H. Products Sales							
Grand Total Sales							

General:

Biologicals:

Salary _____
Expense Allowance _____
Total Drawing Account _____
Commissions on General Sales _____
Dozen Bonus at 15 cents a Dozen _____
Total Earnings _____
Sales of Dental Cream _____ Credit _____
(Commission included in Part 1.) Deficit _____

Form 29: Salesman's monthly sales report

commissions due to him were tabulated at the office on a sheet, shown as Form 29; a duplicate of this report was sent to each salesman. For each month, it showed his total net sales, commissions, and bonuses earned. The reports provided the sales manager with an accurate and comprehensive summary of each man's activities.

Subsequent to 1918, sales of the company were increased, the unit cost of sales was reduced, and the company was able, by

concentrating on individual products through offers of special bonuses, to coordinate sales activities with its production and advertising schedules. In March, 1924, the plan was still in satisfactory operation.

107. DARWIN PAPER COMPANY¹

PAYMENT AND CONTROL OF SALESMEN. Prior to 1919 the company, which sold printers' high-grade paper, paid its 13 salesmen straight salaries plus traveling expenses. In order to effect a more systematic control of the sales force, the company decided to continue to pay salaries on the former basis, but required that the sum of a salesman's traveling expenses and his salary should not exceed a specific percentage of gross profit on his net sales. Deviations of 5% or more during a six-month period would indicate need of salary adjustment. Allowances were made for varying business conditions and living costs.

(1919)

The Darwin Paper Company, a firm which sold printers' high-grade paper throughout New England and the eastern part of New York state for delivery from either its Boston or New Haven warehouse, employed thirteen salesmen, ten of whom traveled from Boston and three from New Haven. The company also maintained a sales service department, composed of five young men in training as salesmen, which sent to distributors of catalogs and booklets free samples of prints and lithographs on brands of paper sold exclusively by the Darwin Paper Company. If a distributor requested his printer to use the kind of stock shown in such a sample, the printer had to buy it from the Darwin Paper Company. The sales service department kept a record of the number of printers in the company's entire selling area, their output, and the class of printing done by them. This information was used in assigning or subdividing sales territories.

Prior to 1919 the salesmen were paid straight salaries plus traveling expenses. In that year, however, a new sales manager was employed. After a study of the current method of payment, he concluded that it lacked systematic control of the sales force. The records kept of each salesman's expenses and sales provided only a general basis for a salary agreement for the ensuing year.

¹Fictitious name used for purpose of disguise.

Each salary was determined at a discussion between the salesman and the sales manager. This permitted too much weight to be given to personal opinions. The existing method was flexible, but seemed to lack the mechanical control which was believed to be necessary to yield justice, both to the company and to all the salesmen. No general complaint, however, had been made.

One suggested change was that the Darwin Paper Company pay each salesman a commission on the percentage of net profit which his sales yielded the company. It was stated that this plan would permit remuneration to be based more directly on sales efforts than was possible under the straight salary plan. Such commissions also would have the advantage of encouraging salesmen to concentrate their efforts on the sale of high-profit merchandise. This made the plan desirable, because 75% of the company's sales were of mill brands. These were papers usually sold by one wholesaler only, or, at the most, by two or three wholesalers. Since peaks in sales of this type of merchandise were not marked, salesmen would be assured of fairly steady incomes. To adopt such a plan, however, would constitute a radical change, and the difficulty of curbing the amount paid out by the company for traveling expenses, which was another unsatisfactory feature in the current method of payment, would continue. The commission plan, therefore, was rejected.

The sales manager then worked out the following change in the existing method. He estimated from experience the amount of salary which the type of salesmen employed by the Darwin Paper Company should earn. He compared the difference in the expense of selling in out-of-town districts and in Boston, and estimated the ratio of indirect expense and merchandise cost to net sales in each instance. The cost of the sales service department was included in the indirect expenses. The sales manager made allowance also for a fair margin of profit. From this study, he determined that for Boston salesmen the selling expense should be approximately 25% of the gross profit on their sales, and for out-of-town salesmen, 35%. These fixed percentages were high enough to yield salaries comparable with those which the salesmen then were receiving, and they provided an average allowance for traveling expenses based on experience and estimates by the salesmen. The company would be satisfied

if the sum of a salesman's traveling expense and his salary did not exceed the specified percentage of gross profit.

Like the commission method of payment, the suggested salary plan prevented concentration of effort by salesmen on the more rapidly selling, lower profit merchandise.

New salesmen could be given a six months' trial without regard to the fixed percentages; because of their lack of selling experience, they usually were assigned to small territories.

A 5% deviation from the standard percentage of sales expense was to be a signal for an increase or decrease in salary or a thorough investigation to determine whether or not the causes for the variation were beyond the salesman's control. Salaries were to be adjusted on a six months' basis. Salesmen, therefore, could not realize the profit from their increase in sales so quickly as under the commission plan, but minor fluctuations in business would not affect their salaries. Since there was one good selling month, March or October, in each six months' period, the sales for each half-year were approximately the same.

During business depressions, the manager was willing to allow an increased percentage of expense for a longer period than six months, since he saw no reason why the salesmen should suffer for conditions over which they had no control. For example, if a Boston salesman's income on net sales was \$5,000 a year, the gross margin from his net sales might drop in volume from \$20,000 to \$15,000 during the year and his salary be retained at \$5,000 for the ensuing year, although it was 3 1-3% above the 5% deviation from the specified ratio of selling expense to gross margin on sales. At the end of the next year, living costs, which were expected to follow a decline in wholesale paper prices, might have reached a level to justify the sales manager in reducing this man's salary to \$3,750. Salaries were to be increased, however, at the end of the six months' period in which the percentage decreased the required 5%, even though living costs were the same. These individual adjustments would be made more readily than under a commission method of payment, which, to secure the same results, would have necessitated changes in the rates of commissions.

One of the difficulties in the operation of the plan was that the costs of the sales service department could not be deducted

from the amount of sales before the percentages were calculated, since the cost of the service rendered in each district could not be determined accurately. Also, the cost of paper might drop and the selling price remain the same. The gross margin was estimated from actual cost or market cost, whichever was the lower; a salesman, therefore, might delay his sales in the expectation of a drop in cost without a change in selling price, which would enable him to improve the ratio between gross margin and his sales expense. A few experienced salesmen, furthermore, might be prejudiced against any change and might not accept the suggestion that they make an effort to increase orders from their customers.

Notwithstanding the fact that there were several undesirable features inherent in this salary plan, it appeared to the executives of the company to embody the principal advantages of the commission method but did not necessitate a complete change to that method. The sales manager could determine, furthermore, each salesman's value by a glance at the records. The plan provided flexibility of control and was approved by the salesmen who preferred remuneration by salary. The sales manager of the Darwin Paper Company, consequently, decided to put it into effect. In his opinion, this method of payment was satisfactory. In 1920 a slight adjustment in percentages was necessary, but intensive effort on the part of the salesmen led to an early restoration of salaries to their former level.

108. BAGLEY REFRIGERATOR COMPANY¹

SALES DECLINE—BUSINESS DEPRESSION. The company paid its seven salesmen commissions on net sales, with fixed salaries and expense allowances. During the business depression of 1921, sales decreased rapidly. The salesmen were dissatisfied with their incomes, and failed to follow the company's instructions.

CONTROL AND PAYMENT OF SALESMEN. The company decided to discontinue payment of commissions and to place the salesmen on a straight salary basis with expense allowances. This plan seemed to make possible a more effective control of sales activity, although it would antagonize the salesmen temporarily.

(1921)

¹Fictitious name used for purpose of disguise.

The Bagley Refrigerator Company employed seven salesmen who traveled throughout the United States. In accordance with the practice of the majority of competing manufacturers, the salesmen were paid commissions of from 4% to 6% on net sales secured in their districts, with guaranteed salaries of from \$2,000 to \$3,000, and allowances for traveling expenses. Commissions in excess of the salaries usually were paid at the end of the year, but, if they exceeded the salaries earlier in the year, they were paid as requested. At the beginning of each season individual contracts were drawn up with the salesmen. The rate of commission varied according to the condition in the territory which each salesman covered, the length of time he had been employed by the company, and his ability. Each salesman received a commission on all sales made in his territory, including mail orders and repeat orders.

Total commissions paid averaged about 5% of net sales. The annual sales of the company averaged \$1,600,000 from 1917 to 1920 inclusive. In 1920 the two most highly paid salesmen, who previously had earned from \$6,000 to \$7,000 each, received incomes of approximately \$15,000. Commissions earned by the other salesmen also increased, but not to such a large extent. During the depression in 1921, sales decreased rapidly. Salesmen became dissatisfied with their incomes, and it became increasingly difficult to secure proper control of the sales organization. The executives decided that a salesman's compensation expense of 5% of net sales was too heavy; they desired to reduce it to about 3%. It was suggested that a change in the method of compensation to a salary basis might be inadvisable. A plan was proposed by which 3% of net sales planned for the subsequent year was to be divided among the salesmen as salaries on the basis of experience and ability. The reduction would be borne chiefly by three leading salesmen whose incomes during 1919 and 1920 had been inflated greatly.

Salesmen had headquarters in Boston, New York, Philadelphia, Atlanta, St. Louis, Peoria, and San Francisco. Sales were made only to furniture and hardware retailers, with the exception of one or two wholesalers. The selling season for refrigerators began in July and ended in February. Four salesmen sold products for other manufacturers during the remaining months and three were idle. One call each year was made on each customer, and the

more important customers were revisited at the end of the season for additional orders. From February to July, customers sent orders to the factory by mail to replenish their stocks. These fill-in orders constituted approximately 15% of the total sales volume.

It had been the experience of the company that it was difficult to control salesmen who were paid on a commission basis. Although routes were planned carefully in conference with the salesmen, in almost every instance they failed to carry out instructions completely. They always were able to submit a plausible reason for not having done so, but the company frequently did not know their whereabouts for two or three days at a time. Since commissions varied directly with sales, the salesmen were inclined to assume that their time was their own, and, therefore, that they could allot it as they saw fit.

Several times a year the home office mailed circulars which solicited inquiries and orders from retailers who did not carry the company's product. When replies were received, salesmen were instructed to call. If the retailer was likely to order only a few refrigerators or was located in a town which was inconvenient to reach, salesmen frequently disregarded the instructions. The failure to follow up orders from the home office was a serious handicap in increasing the sales volume. Some customers regularly carried a complete line of Bagley refrigerators, so that little or no effort on the part of the salesman was needed to secure their orders. After a salesman had obtained an original order, the duty of the company was to insure the customer satisfactory service so that he would reorder Bagley refrigerators. By paying each salesman a commission on all orders received from his territory, the Bagley Refrigerator Company, in many instances, was paying for sales which were secured through the efforts of the company. The commissions of the least experienced salesmen, nevertheless, occasionally failed to exceed their guaranteed salaries.

If salesmen were paid straight salaries plus expenses, they would become more amenable to the instructions issued by the company. Thus their efforts could be directed to securing orders from new customers, rather than to increasing their sales to those old customers who would have placed satisfactory orders without solicitation. It was planned that the factory manager or the sales manager should call on the more important customers who

customarily placed orders for their entire requirements. By the proposed change, however, most of the incentive for a salesman to increase the volume of sales for his district would be removed. He might receive an increase in salary at the end of the year as the result of an excellent record, but this was much less tangible than a direct commission. It was probable that he would come to depend upon the home office for assistance more than upon his own initiative.

The three salesmen whose compensation would be affected most stated that they would not continue to work for the company under the straight salary plan. These men were highly satisfactory salesmen and were personal friends of many of the customers in their territories. Other salesmen objected to the change because they preferred freedom in soliciting orders and in arranging their calls. The management, however, did not expect to have great difficulty in replacing salesmen who might leave by others who were satisfied with the proposed salaries and who would obey the company's orders.

In order to secure more complete control of the sales force, and to provide compensation for salesmen on the basis of the actual work which they did rather than on the reputation of Bagley refrigerators among established customers, the Bagley Refrigerator Company adopted the salary plus traveling expense method of paying its salesmen. Sales increased until the factory was producing at capacity. The management was convinced that, although improved business conditions had contributed to this increase to a large extent, the method of payment which was adopted had been effective.

109. HALLETT FOOD PRODUCTS COMPANY¹

PAYMENT OF SALESMEN—DIVIDEND PLAN. To distribute its manufactured food products, the company employed 150 salesmen, who secured orders from retailers for shipment through wholesalers. The salesmen received salaries and expense allowances. In order to stimulate effort and a common interest in the company's operations, the company decided to adopt a salesman's dividend plan. The dividends, or bonuses on sales, were to be paid quarterly rather than annually, in order to maintain interest in the plan.

¹Fictitious name used for purpose of disguise.

The Hallett Food Products Company manufactured and sold food products which were advertised nationally. Approximately 150 salesmen were employed, who visited retail grocers and solicited orders to be shipped through wholesalers whom the retailers designated. These salesmen also called on wholesalers occasionally. The sales force always had been paid on a straight salary basis, with allowance for traveling expenses. The general sales manager, in 1920, advocated a change to a method of payment which would provide a greater incentive for personal effort, because he believed that a stimulation of salesmen's effort was necessary and because other companies apparently had benefited from such methods.

For the purpose of sales control, the United States had been divided into 52 sales territories, which ranged in size from a single city, such as New York, to two or three states. In several of the territories with scattered population, only one salesman was employed, while in others the number varied from two to twelve men; New York City, for example, had eleven salesmen. In territories where several salesmen were employed, one usually was designated as the territorial manager. The sales territories were grouped into seventeen districts, each under the direction of a district sales manager, who resided in the principal city in the district. The district sales managers were experienced men, all of whom had been with the company for more than ten years. Although the division into districts had been based on as equitable a distribution as possible of both salesmen and territories, one district sales manager often controlled only three or four salesmen in a region where territorial limits were broad and where there were only one or two salesmen to a territory. On the other hand, in congested regions, one manager's district often included from ten to twenty salesmen.

A new salesman at first was accompanied on his visits by an experienced man or by the territorial manager. When he had become thoroughly familiar with the company's methods of selling, he called regularly on retailers and wholesalers. The first promotion from the position of salesman came when he was made assistant to the territorial manager or was given a one-man territory, such as the state of Florida. A territorial manager who was outstandingly successful was a candidate for promotion to the position of district manager.

Salesmen were paid according to their relative experience with and value to the company. When a new man was employed, he was paid \$100 a month and expenses, regardless of his previous selling experience; this salary was increased as soon as he began to show improvement. Statistics compiled by the general sales manager indicated that only one salesman out of three remained for an extended period of time in the company's employment. There seemed to be no specific reason for this.

A possible solution of the problem confronting the company was to discontinue entirely the salary plan and pay the salesmen a commission based upon a percentage of their net sales. While this method would have assured the company of paying only for actual results, it was not desirable because it would place the emphasis on sales volume and might cause neglect of missionary work and "dealer help." Salesmen might fail, moreover, to concentrate sales effort on the new items which the company introduced from time to time. Under this plan, it would be difficult to persuade a successful salesman to take a western territory which was sparsely settled, unless he were given a higher commission than a salesman located in a more favorable territory. The determination of different rates of commission for various territories not only would be difficult but might lead to charges of discrimination.

It was suggested that these objections be overcome by the payment of salaries plus commissions for sales in excess of normal amounts. The normal amount in each instance was to be known as the bonus point, and was to be determined by the sales manager from a study of each salesman's performance during several preceding years. The bonus points would vary according to the density of population in sales territories. Although this plan seemed to be preferable to the payment of a straight commission, its disadvantage was the same: it caused salesmen to strive for increased sales and to neglect missionary work and service to retailers. The executives desired to emphasize the need of wide distribution and of friendly relations with the retailers, rather than to stress an immediate increase of sales.

The company manufactured approximately 25 varieties of the same food product, which were sold in cases of four dozen cans each. It was desirable for the salesmen to sell all varieties rather than to concentrate on those that had been on the market for a

long time and for which there was an established demand. Under a commission or bonus plan of payment based on sales volume, salesmen would be tempted to concentrate on the items which sold most readily.

The general sales manager suggested that a salesman's dividend plan be developed. He proposed that for every case of product sold, a fraction of a cent be placed in a dividend fund to be distributed four times a year among all the salesmen, except those who had been in the employment of the company for less than one year. He believed that if dividends were distributed four times a year instead of annually, the lower-salaried men would attach greater importance to the plan. As before, salesmen were to be paid salaries according to their ability and length of service. Each salesman and each territorial and district manager was to share in the dividend fund in proportion to the amount of salary that he received. For example, if all salaries for a period amounted to \$100,000 and A's salary for this period was \$500, he would receive one two-hundredth of the dividend fund. The company would reserve the right, however, to exclude salesmen from participation when circumstances warranted. This was to protect the company and to prevent salesmen who had been discharged because of inefficiency or dishonesty from sharing in the fund.

The advantage of this plan of payment was that, if correctly presented and administered, it would convince the salesmen that they had an interest in the prosperity of the company. Emphasis was to be placed on the fact that the extra payment was a dividend, not a bonus. Often, the company's most successful salesmen were employed in new territories where there was no possibility of securing sales which compared favorably with those in the more developed areas. Under the dividend plan such a salesman would not be penalized, as he would be under a commission plan.

On the other hand, there was the disadvantage that an individual salesman would be rewarded not in proportion to his own efforts alone, but in proportion to the efforts of all. Some salesmen might resent the benefit derived by others from their own successful efforts, and some might not exert full efforts themselves, but rely on the efforts of others to increase the dividend fund. Tactful and judicious administration of the plan, however, probably could counteract such tendencies.

The Hallett Food Products Company adopted the sales manager's plan of dividend payments. In 1923 the dividend amounted to approximately 17% of the salesmen's total remuneration. When dividends were distributed, the general sales manager indicated the amount of capital investment necessary to secure a comparable return. Thus, if a salesman received a dividend of \$350, it was pointed out that this was equal to the yield on an investment of \$7,000 at 5%.

110. FEDERAL TRADE COMMISSION VERSUS WINSTED HOSIERY COMPANY¹

MISLEADING LABELS PROHIBITED. The Winsted Hosiery Company manufactured and sold underwear to retailers throughout the United States. Because the product contained only a small percentage of wool, the Federal Trade Commission had forbidden the use of such labels as "Natural Merino," and "Gray Wool," which implied that the product was all wool. The Supreme Court decided to uphold the opinion of the Federal Trade Commission in order to protect the interests of the public and of trade rivals who marked their goods truthfully.²

(1922)

Mr. Justice BRANDEIS delivered the opinion of the court:

The Winsted Hosiery Company has for many years manufactured underwear which it sells to retailers throughout the United States. It brands or labels the cartons in which the underwear is sold, as "Natural Merino," "Gray Wool," "Natural Wool," "Natural Worsteds," or "Australian Wool." None of this underwear is all wool. Much of it contains only a small percentage of wool; some as little as 10%. The Federal Trade Commission instituted a complaint under section 5 of the Act of September 26, 1914,³ and called upon the company to show cause why use of these brands and labels alleged to be false and deceptive should not be discontinued. After appropriate proceedings an order was issued which, as later modified, directed the company to "cease and desist from employing or using as labels or brands on underwear or other knit goods not composed wholly of wool, or on the wrappers, boxes or other containers in which they are delivered to customers, the words 'Merino,' 'Wool,' or 'Worsted,' alone or in combination with any other word or words, unless accompanied by a word or words

¹Supreme Court of the United States, Argued March 13, 14, 1922, Decided April 24, 1922. 258 U. S. 483.

²Headnote by Bureau of Business Research.

³c, 311, 38 Stat. 717, 719.

designating the substance, fiber, or material other than wool of which the garments are composed in part (e. g., 'Merino, Wool, and Cotton'; 'Wool and Cotton'; 'Worsted, Wool, and Cotton'; 'Wool, Cotton, and Silk'), or by a word or words otherwise clearly indicating that such underwear or other goods is not made wholly of wool (e. g., part wool)." ¹

A petition for review of this order was filed by the company in the United States Circuit Court of Appeals for the Second Circuit. The prayer that the order be set aside was granted; and a decree to that effect was entered.² That court said: "Conscientious manufacturers may prefer not to use a label which is capable of misleading, and it may be that it will be desirable to prevent the use of the particular labels, but it is in our opinion not within the province of the Federal Trade Commission to do so."³ The case is here on writ of certiorari.⁴

The order of the commission rests upon findings of fact; and these upon evidence which fills 350 pages of the printed record. Section 5 of the act makes the commission's findings conclusive as to the facts, if supported by evidence.

The findings here involved are clear, specific and comprehensive: The word "Merino" as applied to wool "means primarily and popularly" a fine long-staple wool, which commands the highest price. The word "Australian Wool" means a distinct commodity, a fine grade of wool grown in Australia. The word "wool" when used as an adjective means made of wool. The word "worsted" means primarily and popularly a yarn or fabric made wholly of wool. A substantial part of the consuming public, and also some buyers for retailers and salespeople, understand the words "Merino," "Natural Merino," "Gray Merino," "Natural Wool," "Gray Wool," "Australian Wool," and "Natural Worsted," as applied to underwear, to mean that the underwear is all wool. By means of the labels and brands of the Winsted Company bearing such words, part of the public is misled into selling or into buying as all wool, underwear which in fact is in large part cotton. And these brands and labels tend to aid and encourage the representations of unscrupulous retailers and their salesmen who knowingly sell to their customers, as all wool, underwear which is largely composed of cotton. Knit underwear made wholly of wool has for many years been widely

¹The findings and the order were published in the Federal Trade Commission Decisions. *Findings and Orders of the Federal Trade Commission*, July 1, 1920, to June 30, 1921. Vol. III, pp. 189-198. [Editor's Note.]

²The original order of the commission was based on findings which rested upon an agreed statement of facts. The petition for review urged, among other things, that the agreed statement did not support the findings. Thereupon the commission moved in the Court of Appeals that the case be remanded to the commission for additional evidence as provided in the fourth paragraph of section 5 of the act. Under leave so granted the evidence was taken; and modified findings of fact were made. The modified order was based on these findings. It is this modified order which was set aside by the Court of Appeals; and we have no occasion to consider the original order or the proceedings which led up to it.

³272 Fed. 957, 961.

⁴256 U. S. 688.

manufactured and sold in this country and constitutes a substantial part of all knit underwear dealt in. It is sold under various labels or brands, including "Wool," "All Wool," "Natural Wool," and "Pure Wool," and also under other labels which do not contain any words descriptive of the composition of the article. Knit underwear made of cotton and wool is also used in this country by some manufacturers who market it without any label or marking describing the material or fibers of which it is composed, and by some who market it under labels bearing the words "Cotton and Wool" or "Part Wool." The Winsted Company's product, labeled and branded as above stated, is being sold in competition with such all-wool underwear, and such cotton and wool underwear.

That these findings of fact are supported by evidence cannot be doubted. But it is contended that the method of competition complained of is not unfair within the meaning of the act, because labels such as the Winsted Company employs, and particularly those bearing the word "Merino," have long been established in the trade and are generally understood by it as indicating goods partly of cotton; that the trade is not deceived by them; that there was no unfair competition for which another manufacturer of underwear could maintain a suit against the Winsted Company; and that even if consumers are misled because they do not understand the trade signification of the label or because some retailers deliberately deceive them as to its meaning, the result is in no way legally connected with unfair competition.

This argument appears to have prevailed with the Court of Appeals; but it is unsound. The labels in question are literally false, and, except those which bear the word "Merino," are palpably so. All are, as the commission found, calculated to deceive and do in fact deceive a substantial portion of the purchasing public. That deception is due primarily to the words of the labels, and not to deliberate deception by the retailers from whom the consumer purchases. While it is true that a secondary meaning of the word "Merino" is shown, it is not a meaning so thoroughly established that the description which the label carries has ceased to deceive the public; for even buyers for retailers, and salespeople, are found to have been misled. The facts show that it is to the interest of the public that a proceeding to stop the practice be brought. And they show also that the practice constitutes an unfair method of competition as against manufacturers of all-wool knit underwear and as against those manufacturers of mixed wool and cotton underwear who brand their product truthfully. For when misbranded goods attract customers by means of the fraud which they perpetrate, trade is diverted from the producer of truthfully marked goods. That these honest manufacturers might protect their trade by also resorting to deceptive labels is no defense to this proceeding brought against the Winsted Company in the public interest.

The fact that misrepresentation and misdescription have become so common in the knit underwear trade that most dealers no longer accept labels at their face value, does not prevent their use being an unfair

method of competition. A method inherently unfair does not cease to be so because those competed against have become aware of the wrongful practice. Nor does it cease to be unfair because the falsity of the manufacturer's representation has become so well known to the trade that dealers, as distinguished from consumers, are no longer deceived. The honest manufacturer's business may suffer, not merely through a competitor's deceiving his direct customer, the retailer, but also through the competitor's putting into the hands of the retailer an unlawful instrument, which enables the retailer to increase his own sales of the dishonest goods, thereby lessening the market for the honest product. That a person is a wrongdoer who so furnishes another with the means of consummating a fraud has long been a part of the law of unfair competition.¹ And trade-marks which deceive the public are denied protection although members of the trade are not misled thereby.² As a substantial part of the public was still misled by the use of the labels which the Winsted Company employed, the public had an interest in stopping the practice as wrongful; and since the business of its trade rivals who marked their goods truthfully was necessarily affected by that practice, the commission was justified in its conclusion that the practice constituted an unfair method of competition; and it was authorized to order that the practice be discontinued.

Reversed.

Mr. Justice McREYNOLDS dissents.

III. PRESTONETTES, INC., v. COTY³

MANUFACTURER'S REGISTERED TRADE-MARK ON REPACKAGED MERCHANDISE.

Prestonettes, Inc., purchased toilet powder and perfumes from Coty, compounded the powder and rebottled the perfumes, for resale in containers labeled to indicate that the contents were made by Coty but rebottled and compounded independently by Prestonettes, Inc. These labels contained the words "Coty" and "L'Origan," trade-marks registered by Coty. The type was made uniform, however, because of a former decree of a district court, and gave no special prominence to those words. The United States Supreme Court decided against Coty's contention that this practice of Prestonettes, Inc., was a violation of Coty's rights as owner of registered trade-marks.⁴

(1924)

¹*Von Mumm v. Frash*, 56 Fed. 830; *Coca Cola Co. v. Gay-Ola Co.*, 200 Fed. 720, 722; *New England Awl & Needle Co. v. Marlborough Awl & Needle Co.*, 168 Mass. 154, 155.

²*Manhattan Medicine Co. v. Wood*, 108 U. S. 218; *Worden v. California Fig Syrup Co.*, 187 U. S. 516, 538.

³Supreme Court of the United States, Argued Feb. 18 and 19, 1924, Decided April 7, 1924. 44 Sup. Ct. 350.

⁴Headnote by Bureau of Business Research.

Mr. Justice HOLMES delivered the opinion of the court:

This is a bill in equity brought by the respondent, Coty, a citizen of France, against Prestonettes, a New York corporation, having its principal place of business in the Southern District of New York. It seeks to restrain alleged unlawful uses of the plaintiff's registered trademarks, "Coty" and "L'Origan," upon toilet powders and perfumes. The defendant purchases the genuine powder, subjects it to pressure, adds a binder to give it coherence and sells the compact in a metal case. It buys the genuine perfume in bottles and sells it in smaller bottles. We need not mention what labels it used before this suit as the defendant is content to abide by the decree of the District Court. That decree allowed the defendant to put upon the rebottled perfume "Prestonettes, Inc., not connected with Coty, states that the contents are Coty's [giving the name of the article] independently rebottled in New York," every word to be in letters of the same size, color, type, and general distinctiveness. It allowed the defendant to make compacts from the genuine loose powder of the plaintiff and to sell them with this label on the container, "Prestonettes, Inc., not connected with Coty, states that the compact of face powder herein was independently compounded by it from Coty's [giving the name] loose powder and its own binder. Loose powder——per cent., Binder——per cent.," every word to be in letters of the same size, color, type, and general distinctiveness. The Circuit Court of Appeals, considering the very delicate and volatile nature of the perfume, its easy deterioration, and the opportunities for adulteration, issued an absolute preliminary injunction against the use of the above marks except on the original packages as marked and sold by the plaintiff, thinking that the defendant could not put upon the plaintiff the burden of keeping a constant watch.¹

The bill does not charge the defendant with adulterating or otherwise deteriorating the plaintiff's product except that it intimates rather than alleges metal containers to be bad, and the Circuit Court of Appeals stated that there were no controverted questions of fact but that the issue was simply one of law. It seemingly assumed that the defendant handled the plaintiff's product without in any way injuring its qualities and made its decree upon that assumption. The decree seems to us to have gone too far.

The defendant, of course, by virtue of its ownership had a right to compound or change what it bought, to divide either the original or the modified product, and to sell it so divided. The plaintiff could not prevent or complain of its stating the nature of the component parts and the source from which they were derived if it did not use the trademark in doing so. For instance, the defendant could state that a certain percentage of its compound was made at a certain place in Paris, however well known as the plaintiff's factory that place might be. If the compound was worse than the constituent, it might be a misfortune to the

¹285 Fed. 501, certiorari granted, 260 U. S. 720, 43 Sup. Ct. 250, 67 L. Ed.—.

plaintiff, but the plaintiff would have no cause of action, as the defendant was exercising the rights of ownership and only telling the truth. The existence of a trade-mark would have no bearing on the question. Then what new rights does the trade-mark confer? It does not confer a right to prohibit the use of the word or words. It is not a copyright. The argument drawn from the language of the Trade-Mark Act does not seem to us to need discussion. A trade-mark only gives the right to prohibit the use of it so far as to protect the owner's good-will against the sale of another's product as his.¹ There is nothing to the contrary in *A. Bourjois & Co. v. Katzel*.² There the trade-mark protected indicated that the goods came from the plaintiff in the United States, although not made by it, and therefore could not be put upon other goods of the same make coming from abroad. When the mark is used in a way that does not deceive the public we see no such sanctity in the word as to prevent its being used to tell the truth. It is not taboo.³

If the name Coty were allowed to be printed in different letters from the rest of the inscription dictated by the District Court a casual purchaser might look no further and might be deceived. But when it in no way stands out from the statements of facts that unquestionably the defendant has a right to communicate in some form, we see no reason why it should not be used collaterally, not to indicate the goods, but to say that the trade-marked product is a constituent in the article now offered as new and changed. As a general proposition there can be no doubt that the word might be so used. If a man bought a barrel of a certain flour, or a demijohn of Old Crow whisky, he certainly could sell the flour in smaller packages or in former days could have sold the whisky in bottles, and tell what it was, if he stated that he did the dividing up or the bottling. And this would not be because of a license implied from the special facts but on the general ground that we have stated. It seems to us that no new right can be evoked from the fact that perfume or powder is delicate and likely to be spoiled, or from the omnipresent possibility of fraud. If the defendant's rebottling the plaintiff's perfume deteriorates it and the public is adequately informed who does the rebottling, the public, with or without the plaintiff's assistance, is likely to find it out. And so of the powder in its new form.

This is not a suit for unfair competition. It stands upon the plaintiff's rights as owner of a trade-mark registered under the Act of Congress. The question, therefore, is not how far the court would go in aid of a plaintiff who showed ground for suspecting the defendant of making a dishonest use of his opportunities, but is whether the plaintiff has the naked right alleged to prohibit the defendant from making even

¹*United Drug Co. v. Theodore Rectanus Co.* 248 U. S. 90, 97, 39 Sup. Ct. 48, 63 L. Ed. 141.

²260 U. S. 689, 43 Sup. Ct. 244, 67 L. Ed. 464, 26 A. L. R. 567.

³*Canal Co. v. Clark*, 13 Wall, 311, 327, 20 L. Ed. 581.

a collateral reference to the plaintiff's mark. We are of opinion that the decree of the Circuit Court of Appeals must be reversed and that that of the District Court must stand.

Decree reversed.

Mr. Justice McREYNOLDS dissents.

112. TENZNER RUBBER COMPANY¹

WRITTEN GUARANTIES—TRADE CUSTOM. The company, formed in 1922, planned to sell its high-grade rubber footwear partly to wholesalers and partly to large retailers. In order to avoid the establishment of a dangerous precedent, and to conform to trade custom, the company decided not to give written guaranties to consumers but to declare its intention to protect consumers against manufacturing defects, reserving for itself the right to determine whether or not a product was defective.

(1922)

The Tenzner Rubber Company was established in 1922, to manufacture men's, women's, and children's rubbers, tennis and gymnasium shoes, buckle overshoes, low boots, hip boots, and other types of rubber footwear. These products were to be sold to wholesalers for distribution to small retailers, and directly to large retailers such as department stores. It was planned to sell a major portion of the output under the company's trade-mark and also to accept orders from wholesale firms which had their own trade-marks. There was uncertainty as to whether the company should guarantee in writing the footwear sold under its trade-mark.

The first shipments of footwear were to be made in the spring of 1923, but, in October, 1922, no decision regarding the guaranty policy of the company had been reached, because of the difference of opinion which existed among the executives. The president, who formerly had been connected with a prominent rubber footwear company, advocated the following policy: The company should give no written guaranty concerning the wearing qualities of its footwear, but should declare its intention to protect users against defects in workmanship. Salesmen, if asked whether or not the footwear was guaranteed, should state that the company's products were equal in quality to those of

¹Fictitious name used for purpose of disguise.

any competitors, and were free from manufacturing defects. The Tenzner Rubber Company should reserve the right to decide whether a product was defective or not, and whether replacement ought to be made.

In support of this policy, the president explained that it removed any question of legal difficulty over the word "guaranty," which was interpreted in various ways. A guaranty might result in unjust complaints and dishonesty in cases of dispute over the quality of footwear guaranteed by the manufacturer. Retailers generally agreed with customers. Frequently, customers returned shoes, in reliance upon the wording of the guaranty although actually the quality had been in every respect satisfactory. For example, if an overshoe designed for low heels was used with high heels, it soon wore out. Retailers often carried footwear for a year or more. This stock naturally deteriorated, but, when the customer was dissatisfied, the retailer expected the manufacturer to pay for the cost of replacement.

Although other manufacturers had attempted several times to evolve a satisfactory adjustment plan, they had been unsuccessful. The cost of replacing rubber footwear under the guaranty, therefore, had to be added to the future selling price. It was manifestly unfair to expect all consumers to pay for a guaranty from which they received little benefit. When no specific guaranty relative to wearing qualities was given, the cost of all footwear was reduced and the adjustment problem eliminated.

The guaranty policy outlined was followed by a majority of the larger companies, and any change in the accepted custom of the industry might complicate the entire guaranty problem. In the president's opinion, therefore, since larger companies could afford to give a more inclusive guaranty than could the Tenzner Rubber Company, the latter could expect no ultimate advantage from the adoption of a guaranty policy. It might be exceedingly difficult to discontinue such a policy if adopted.

Several executives did not agree with the president and reasoned that the company should guarantee absolute satisfaction to all users of the company's footwear. It was not necessary for the established companies to give a specific guaranty to secure distribution, but the salesmen of the new company would find a guaranty to be of assistance in obtaining new customers and increasing sales. It would remove any question of doubt in the

mind of the retailer or wholesaler concerning the quality of the product. Thus a liberal guaranty policy should help the company to establish itself immediately. It was known that other companies received many complaints concerning specific lines, as, for example, sportsmen's hip boots, which retailed in 1922 at approximately \$8. By means of a guaranty, the company might create a broad market for its product of that type. Then, after wide distribution had been secured, the company gradually could modify the form of the guaranty, until only defects in manufacture were covered.

The company decided, however, to adopt the plan outlined by the president because it was more readily controllable, conformed to the trade custom, and did not establish a dangerous precedent.

113. AFFERIAT WATCH COMPANY¹

UNSCRUPULOUS COMPETITION. The company guaranteed its watch-cases for 20 or 25 years. Sales were made to wholesalers and manufacturers. Unreliable manufacturers began selling inferior watch-cases with 25-year guaranties which they had no intention of honoring.

DISCONTINUANCE OF GUARANTY. The company decided, in common with other reputable watch-case manufacturers, to follow the Federal Trade Commission's recommendation that time guaranties be abolished.

TRADE STANDARDS. In order to establish uniform trade standards, these manufacturers decided that the words "Gold-Filled," together with numerals designating the thickness of the gold plating used, be stamped on the watch-cases produced by these manufacturers.

(1923)

The Afferiat Watch Company, established in 1894, manufactured solid gold and high-grade gold-filled watch-cases. Because of the quality and artistic design of its product, it had expanded continually until 1923, when net sales were \$2,500,000. The company distributed its cases throughout the United States to retail jewelry stores through wholesalers, and sold directly to watch manufacturers. Wholesalers usually distributed cases made by four or five companies. The company advertised extensively in trade papers and in popular periodicals.

The composition from which gold-filled watch-cases were

¹Fictitious name used for purpose of disguise.

stamped or cut was prepared by rolling thin layers of gold over a composition metal. Two layers of gold generally were rolled on the side of the composition which formed the outside of the case, and one layer on that which formed the inside. Gold-filled cases were guaranteed originally for 10 or 15 years. The layers of gold then used to plate the composition metal were so valuable that several manufacturers repurchased used cases from jewelers. Because of severe competition, prices were lowered, however, and the quantity of gold used to plate the cases was reduced by all manufacturers; the guaranty, moreover, was increased to 20 or 25 years. So little gold was used that producers no longer repurchased used cases from retailers. Established companies, despite the lowered quality of the cases, continued to place their trade-mark or company name on all cases, and replaced any which wore out within the period of the guaranty.

In 1923 the Afferiat Watch Company, in common with other important makers of watch-cases, was contemplating discontinuance of the policy of giving time guaranties on its products. The subject had been discussed before the Federal Trade Commission by manufacturers who sought to eliminate unfair practices in the trade.¹

From 1915 to 1923, more than 200 individuals or companies started to manufacture gold-filled watch-cases. They made them at low cost in private houses or in small makeshift factories. Although most of these companies electroplated the case metal with gold worth only from 3 to 10 cents, they stamped each case with a 20- or 25-year guaranty, which they had no intention of honoring. The smaller companies had a precarious existence; they frequently changed location or company name, or disappeared entirely. In several instances, a case guaranteed for 25 years bore no trade-mark, company name, or number. The attitude of this class of manufacturers toward guaranties was reflected in the product. Cases which closely resembled those sold by reputable manufacturers at \$4.60 could be priced by the temporary firms at \$1 because of inferior materials and workmanship, low fixed charges, and failure to provide reserves for guaranties.

The unscrupulous companies marketed their products through

¹*Annual Report of the Federal Trade Commission for the Fiscal Year Ended June 30, 1923*, p. 57.

wholesalers; several of them also sold the cases directly to retailers. Manufacturers of watches, however, almost never purchased cases of this type. The Afferiat Watch Company, therefore, encountered direct competition from unscrupulous makers, only in its sales to wholesalers. Indirectly, however, this type of competition probably was more serious, since it enabled retail jewelers, who so desired, to attract customers by low prices on cases which appeared thoroughly dependable.

Unsuccessful attempts had been made by the established companies to bring legal proceedings against the companies which gave fraudulent guaranties. The Federal Trade Commission, after its review of the whole subject, concluded:

1. That the Federal Trade Commission has reason to believe from the facts submitted to it by the manufacturers, subject to further inquiry in proceedings, as provided by section 5 of the Federal Trade Commission Act:

(a) That the practice of placing time guaranties on gold-filled and gold-plated watches, for distribution and sale in interstate commerce, has led and leads to deception of the purchasing public.

(b) That the marking and/or calling of watch-cases for distribution and sale in interstate commerce, as gold-filled, leads to deception of the purchasing public, in the absence of the following elements as a minimum:

(1) That they are marked in close proximity to the words "gold-filled" and as plainly as the words "gold-filled," with words or marks indicating the fineness of the gold which shall not be less by more than three one-thousandths part than the fineness indicated.

(2) That the backs and caps are made of two sheets of gold or an alloy thereof, affixed to the surfaces of a sheet of other metal.

(3) The center, bezel, pendant, crown, and bow are made of one sheet of gold or an alloy thereof, applied to the outer surface of a sheet of other metal.

2. That the commission received the following as the opinion of the trade on the subjects covered, and will take due notice thereof when proper to do so in any proceeding pending before it:

(a) That manufacturers and dealers should be required to place the maker's trade-mark "conspicuously and indelibly" on the inner surface of the lid or cap.

(b) The sheet of gold or of its alloy affixed to the outer surface of the backs, center, open-faced bezel, pendant, crown, and bow shall not be less than three one-thousandths of one inch in thickness; the sheets of gold or its alloy affixed to the inner surfaces of the backs, to

the inner and outer surfaces of the caps, and to the outer surface of the hunting bezel, shall not be less than one one-thousandth of an inch in thickness.

(c) That whenever the thickness of the sheets of gold or its alloy in gold-filled watch-cases is indicated, the mark indicating such thickness shall only refer to the thickness of the sheets of gold or its alloy so affixed to the outer surfaces of the backs, center, open face, bezel, pendant, crown, and bow, the mark accurately indicating such thickness which shall be expressed in decimals indicating thousandths of an inch, in tests to ascertain the thickness, measurements being taken at a point where no gold has been added or taken away for decoration or ornament.

By the commission: Commissioner Nugent dissenting.

OTIS B. JOHNSON, *Secretary*.

The following dissenting memorandum was filed by Commissioner Nugent:

I am in favor of requiring the manufacturers to place on each watch the number of pennyweights of gold used, in addition to the carat fineness, which does not indicate and is not intended to indicate to the mind of the consumer anything relative to the value of the gold used.

The long-time guaranty is a fake, and as it is used for the purpose of deceiving the general public, I am in accord with the proposal that manufacturers who resort to it should be proceeded against.

JOHN F. NUGENT, *Commissioner*.¹

In 1923, approximately 75 companies started manufacturing cases and stamped them "Gold-filled—Guaranteed for 25 years." Severe price competition was encountered by the Afferiat Watch Company's salesmen and they requested that the company adopt a policy to meet this difficulty.

At the same time, a group of influential case manufacturers informed the Afferiat Watch Company of their decision to abolish the time guaranty policy and to adhere to the specifications for materials and markings outlined in the opinion of the Federal Trade Commission. These manufacturers expected thus to standardize the phrase "gold-filled," as "sterling" previously had been standardized, and they requested the Afferiat Company to make a similar decision.

Costs were increased approximately 5% because of replacements under the guaranty. This increase was paid by all customers and manifestly was unfair, since the durability of a case

¹*Annual Report of the Federal Trade Commission for the Fiscal Year Ended June 30, 1923*, pp. 59, 60.

varied with the usage to which it was subjected, and careful users obtained more than the guaranteed wear. For example, if a case guaranteed for 20 years wore thin for any reason at the end of 15 years, it was replaced with a new case. In such instances, the purchaser paid nothing for the use of the first case. Because of the expense involved, records of each case were not kept.

If the opinions of the trade as summarized by the Federal Trade Commission were followed as policies, case manufacturers probably would be able to obtain a ruling to specify the type of case which could be marked "gold-filled." In that event, both manufacturers and purchasers could be protected. The specifications, however, were for cases of slightly higher quality than the company had made previously, and unit prices were expected to be about \$1 greater. This additional cost, unlike that incurred for the time guaranty, provided actual value to each purchaser.

For the guidance of buyers, each case was to bear the trademark or the name of the company which manufactured it. The Afferiat Watch Company did not wish to indicate avoidance of responsibility for quality by removal of the time guaranty. Gold-filled cases occasionally chipped because of inferior workmanship, and these could be returned to the manufacturer to be exchanged for perfect cases. Since, according to the changed policy, only cases showing defective workmanship or materials would be replaced, the company could eliminate the difficulties and expenses of judging claims dependent upon the time guaranty. No satisfactory solution of that adjustment problem had been found previously.

If the company followed strictly the recommendations, its salesmen could state to customers that every case was at least equal to the "trade standard" outlined by the Federal Trade Commission. This declaration might overcome in part the objection of retailers that added initial cost and the removal of the time guaranty would increase sales resistance.

The leading case companies as well as numerous small companies approved the change. The Afferiat Watch Company saw the advantages to be gained by the elimination of the time guaranty.

The less well established case companies, however, had rejected the plan as detrimental to sales, and retailers also might disapprove it, on the ground that it would deprive them of a sales

point which they deemed valuable. Consumers in turn might become suspicious because the accustomed guaranty was withdrawn, and continue to purchase only those cases which retained the guaranty. The probable effect on the company's sales could not be determined.

Some manufacturers might decide to follow the specifications and also to give guaranties in order to increase their sales at the expense of the companies which offered no guaranty. It had not been proved that the Federal Trade Commission could prevent the use of the phrase "Gold-Filled—Guaranteed for 20 years." Effective prohibition of this guaranty was, therefore, uncertain and difficult of attainment.

The company decided, however, that the statement "Manufactured under federal specifications" would obviate this apparent disadvantage, and that the Federal Trade Commission probably would restrain an unscrupulous manufacturing company from using both "Manufactured under federal inspection" and "Guaranteed 20 years."

The Afferiat Watch Company decided to cooperate with the other companies and removed the guaranty phrase from all cases manufactured after December 31, 1923.

114. GOSSMANN MACHINE COMPANY¹

TERMS OF WARRANTIES. Wholesalers acted as exclusive agents for the company's drills, lathes, and other machine tools. The company followed no definite warranty policy, but gave such warranty as seemed advisable when requested. In 1922, four new customers requested specific warranties. The company decided to grant two of the requested warranties. The other two, however, were not satisfactory and the company substituted its own form of warranties.

(1922)

The Gossmann Machine Company, which produced drills, lathes, and other machine tools, had been established for 20 years and possessed a good reputation in the trade. It sold its products through machinery wholesalers who acted as exclusive agents in their respective territories.

The company did not follow a definite policy in regard to

¹Fictitious name used for purpose of disguise.

warranties and did not mention them in its sales pamphlets. The fact was well known in the trade, however, that the company would remedy, at its own expense, any defect in material or workmanship which developed in one of its machines within a year after sale. When a customer requested a warranty, the sales manager gave such warranty as he deemed advisable, although the usual form was as follows:

A. This machine is sold with the understanding that after installation in the customer's factory it will grind case-hardened washers No. 1106, 2 13/16-inch diameter, at the rate of 550 per hour, limits $\pm .005$ -inch, without heat checking the surfaces; otherwise the machine may be returned. The machine is to grind washers on two sides each, removing .013-inch stock per side.

Early in 1922 one of the distributors sold four automatic grinding machines of a new type to customers who previously had not used Gossmann machines. Each customer wished the machine to be warranted and suggested a specific warranty. The four warranties suggested were as follows:

B. This order is subject to the following conditions: When the machine is completed, the customer will send a supply of rings to the factory of the Gossmann Machine Company and a satisfactory demonstration will be made by the latter in the presence of the customer's representative. After installation at the customer's works the machine must produce at the following rate:

Cup No. 1308, hardened steel, grinding two sides, removing .007-inch stock from each side, finishing to limits of .001-inch (parallel within .0006-inch or less) 500 to 550 pieces per hour (1,000 to 1,100 surfaces).

Cone No. 1308, hardened steel, grinding two sides, removing .007-inch stock from each side, holding to limits of .001-inch (parallel within .0006-inch), producing 850 to 900 pieces per hour (1,700 to 1,800 surfaces).

Cup and Cone No. 1308, ground together, with one cone placed inside each cup, grinding two sides, removing .007-inch stock from each side, holding to limits of .001-inch (parallel within .0006-inch), producing 375 to 400 cones and 375 to 400 cups per hour (1,500 to 1,600 surfaces).

C. The above-listed machine is to be ready for delivery in approximately two months, but before shipment is made, this machine is to be demonstrated at the plant of the Gossmann Machine Company on the customer's type of work, to the complete satisfaction of the customer's representative. If the demonstration at the plant is not satisfactory to the customer in every respect, this order may be considered

void at the customer's option. Furthermore, if the machine is approved at the Gossmann Machine Company's plant and shipped to the customer, the company is to furnish a demonstrator and prove the machine to be equally satisfactory in the customer's plant; or if the machine cannot be made by the company to operate at the customer's plant as satisfactorily as at the demonstration at the factory, then the machine is to be returnable for full credit at the customer's option.

D. This machine is subject to 30 days' trial and is to give production as stated in the Gossmann Machine Company's letter of July 24. The trial period is to date from the time the customer receives the machine and has it set up with sufficient work available. The company is to furnish a demonstrator. If the machine is found not to be satisfactory as to production and limits guaranteed by the company, the customer will return the machine.

E. This machine is to be shipped subject to demonstration after installation in the customer's shop and is to be guaranteed to give the customer the following production: Cutters $3/8 \times 1 \times 2$ $13/16$, grinding 2 sides, removing .010-inch stock per side, finishing 70 pieces (140 surfaces) per hour.

Cutters $3/8 \times 1 \times 2$ $13/16$, grinding 2 edges, removing .015-inch stock per edge, finishing 125 pieces (250 surfaces) per hour.

Cutters $3/8 \times 5/8 \times 2$ $13/16$, grinding 2 sides, removing .010-inch stock per side, finishing 80 pieces (160 surfaces) per hour.

Cutters $3/8 \times 5/8 \times 2$ $13/16$, grinding 2 edges, removing .015-inch stock per edge, finishing 125 pieces (250 surfaces) per hour.

The machine is not to be paid for until it has proved satisfactory to the customer.

Warranties of these types had not been given previously for the standard grinding machine, the reputation of which was established. Warranty A was not a warranty of satisfaction but a definite specification of the task which the machine was to perform. No machine manufactured by the company had failed to meet this type of warranty. Allowance was made in the stated rate of production for the quantity of steel to be removed, the hardness of the metal, and the size of the piece. No cognizance was taken, however, of the efficiency of the operator, the presence of a helper, the availability of the material for grinding, or the quantity of power supplied. The period was not specified, moreover, within which the tests could be made and, if they were unsatisfactory, the machine returned. It was the custom of the trade, however, to allow 30 days from the date of installation as the trial period. Several manufacturers by a special provision

limited the period to 30 days from the date of shipment; others limited it to 30 days after receipt of the machine. Such a policy frequently caused hardship to customers because of delays in transit or installation.

Warranty B was similar in content to A but contained the additional provision that the customer was to witness a satisfactory demonstration at the factory. Warranty C was somewhat broader than B, and, unless a partial acceptance of the machine were secured at the demonstration of the machine at the plant, the warranty virtually would be one of satisfaction. Warranty D was equivalent to A because the letter of July 24, mentioned in the former, contained Warranty A. Warranty E was the broadest of all, since it provided that payment for the machine should be withheld until it proved satisfactory to the customer.

The warranties requested by the purchasers were more liberal than that customarily given by the company. The machine on which the four more extensive warranties were requested, however, was of a new design, involved a greater investment than the old model which it superseded, and had not been on the market for a sufficient period to prove its capability. Competition also was keen at this time, and experience had demonstrated that when a machine proved satisfactory there was a definite tendency to reorder additional machines, when required, from the manufacturer of the old machine.

Although he had not sought legal advice, the sales manager of the Gossmann Machine Company was of the opinion that, if the machines did not yield the production warranted, the company was not liable for the loss incurred by the customer by reason of such failure or for the cost of setting up and taking down the machine. The sales manager believed, however, that a direct statement that the company was not liable for such damage might make a purchaser apprehensive of the reliability of the company's warranties.

According to the sales code, there were two types of stipulations accompanying a sale. One was termed a condition; the other, a warranty. A statement of the former type meant that a specified condition must be performed before the contract was enforceable, but that the seller made no promise that the event would take place. Failure of a machine to meet the production

guaranty as a condition permitted the purchaser to exercise the option of waiving the warranty or returning the machine. It did not make the company liable for damages incurred by the failure of the machine to yield the warranted production. If, however, the statement led the purchaser to buy the machine by a promise that the production warranted would be obtained, it was a warranty. Failure of the machine to comply with this warranty made the company liable for damages caused by such failure. The measure of such damages was the loss directly and naturally resulting, in the ordinary course of events, from the breach of warranty. As a rule, however, it was not customary for the manufacturer to be held liable for consequential damages arising from failure of a machine to meet the warranty.

The sales manager decided that Warranty B stated what was expected of the machine with sufficient definiteness so that any question of whether or not the machine had produced according to the warranty could be determined upon a basis of fact. The warranty also included the statement that the provisions in the agreement were conditions. The sales manager was sure, therefore, that, if the machine failed to meet the warranty, the company would not be subject to consequential damages.

Warranty C, the sales manager decided, was too general. Consequently, when the representative of the purchaser came to the plant to witness a demonstration of the machine, a written statement was secured from him indicating that the machine was satisfactory in design and suitable for the purpose intended. With this understanding, the machine was shipped under a warranty similar to A.

Warranty D was accepted because the letter of July 24 contained Warranty A, and the liability of the company, if the machine failed to meet the warranty, was stated.

Warranty E was not accepted. The statement of the rate of production was sufficiently definite, but the fact that the machine was not to be paid for until it proved satisfactory to the customer presented an opportunity for an unjustifiable refusal of this machine by the purchaser. The sales manager, therefore, wrote to the customer and suggested agreement upon a warranty similar to A. This the customer accepted. The warranties, consequently, closely adhered to the company's practice.

115. WATERTON & COMPANY,¹ SPECIALTY STORE

ADJUSTMENTS FOR UNSATISFACTORY MERCHANDISE. Waterton & Company operated a women's high-grade specialty store of 20 departments. Customers who had occasion to seek adjustments were directed to the adjustment office, usually from the department where the purchase was made, and frequently they had to wait in turn to see the adjuster. For the greater convenience and satisfaction of customers, the company decided to give departmental buyers authority to make adjustments, with verification of receipt of merchandise by the floormen.

(1922)

Waterton & Company operated a women's specialty store of 20 departments, which enjoyed the patronage of a wealthy class of customers. During 1921 and 1922 it became evident that the company's method of making adjustments on returned merchandise was unsatisfactory. For many years a plan of centralized adjustments had been in use. Customers were required to go to the central office on the third floor whenever they desired to make a complaint about unsatisfactory merchandise. During the rush hours of the day the superintendent of adjustments was unable to attend to all cases immediately and customers had to wait their turns.

A customer who had made an unsatisfactory purchase ordinarily went to the department in which she had made the purchase and insisted on relating her complaint to the buyer even after she had been referred to the adjustment office. The buyer was obliged to listen courteously, but when he refused to make an immediate adjustment the customer often showed displeasure. By the time she finally saw the central adjuster, the repetition of the story of her experience usually had made the customer difficult to please and she often made unreasonable demands.

It was suggested that a customer could be served more expeditiously if the individual department buyers were permitted to make adjustments, and also that more satisfactory adjustments could be effected. Thus a more favorable impression would be made on the customer.

Under the proposed plan, buyers were to be instructed to send a customer to the manager whenever it was apparent that the customer was clearly in the wrong or that a satisfactory adjust-

¹Fictitious name used for purpose of disguise.

ment would be difficult. This plan appeared to be advantageous from the standpoint of the store, since a buyer who was thoroughly acquainted with the stock in his department often could induce a customer to exchange the article of merchandise for another.

A further advantage of this plan was that a buyer would be apprized immediately of any merchandise that was defective or unsatisfactory, and could at once cancel outstanding orders for that kind of merchandise. When adjustments were made by a central office, there was frequently a delay before the defective merchandise came to the attention of the buyer. When customers did not return duplicate sales slips or price tags with the unsatisfactory merchandise, the buyer in the department could determine at once the price of the article and the salesperson who made the sale, but the central adjustment office could not.

A buyer, moreover, since he was acquainted thoroughly with the stock, could judge whether or not a customer's claims were reasonable. It was impossible for a central superintendent of adjustments to have a specialized knowledge of all the merchandise in the store. Another argument in favor of having buyers make adjustments was that, if the merchandise had been misrepresented or a customer induced to take an article that she did not want, the buyer could identify the salesperson and correct her selling methods.

Under the proposed plan, buyers were to be required to fill out a blank like the one presented as Form 30.

This report was to be signed by the floorman who verified the receipt of the merchandise. It then would be delivered to the cashier, who either would make an immediate refund to the purchaser, or credit her account with the amount of the adjustment. The gross amount of cash and charge refunds incurred as the result of making adjustments was to be charged to profit and loss.

The chief objection to the proposed plan was that a buyer was likely to make adjustments reluctantly or to urge a customer to keep merchandise, since a reduction of sales in his department would decrease his bonus. It was asserted, moreover, that the time of buyers was too valuable to the company to be occupied with such matters as adjustments. Customers, however, usually

COMPLAINT			ADJUSTMENT		
Name _____					
Address _____					
Telephone _____					
Article	Price	Purchased	Cash	Charge	C. O. D.
PARTICULARS					

Authorized by _____					

Form 30: Adjustment report

insisted on repeating fully to the buyer their complaints, even though the adjustments were made in a central office.

The centralized method of making adjustments was advantageous in that a person trained in adjusting difficult cases was likely to be more diplomatic than the buyers, who were selected because of their merchandising ability rather than because of their ability to deal with customers. The buyers employed by Waterton & Company, however, were intelligent and well educated, and probably would not antagonize customers. The store had adhered strictly to the policy that "a customer was always

right," and many adjustments had been made even when the customer was clearly at fault.

It was stated that, if adjustments continued to be made centrally, a more uniform policy of making adjustments could be established for the entire store, and an accepted policy could be adhered to more strictly.

Many cases required investigation of the claim and also correspondence with the manufacturers. These delayed adjustments could be taken care of more advantageously by a central adjuster than by the buyer.

In many stores there were dishonest and undesirable customers who were known as "chronic kickers." Their number might be increased if adjustments were made by the individual buyers, whereas, if they were obliged to go to a central department to make a claim, they would be recognized because of their frequent appearance, and their cases could be adjusted accordingly. In several department stores an alphabetical list was kept of all "chronic kickers," and the superintendent refused to make adjustments for such customers.

A compromise solution of the adjustment problem was suggested, whereby the plan of centralized adjustments was to be continued, except that permission was to be extended to floormen to make adjustments in all cases where the refund claim was under \$5. This plan was expected to relieve the superintendent of adjustments of many small claims and thereby give him more time to dispose of the major cases. It was argued that the settlement of claims fell within a floorman's duties, since it was a form of customer service. By this plan, the time of both the buyer and the central adjuster would be saved.

In opposition to that plan was the contention that it was no more difficult to settle a large claim than a small one; that, if the adjustment privilege were given to floormen at all, no limits should be set on the amount of the adjustment that they were permitted to make.

The executives of Waterton & Company decided to permit buyers to make adjustments. In August, 1923, it was stated that the plan had been successful. In about half the adjustment settlements, the buyers were able to persuade customers to take other merchandise in exchange. Buyers were instructed never to

antagonize a customer. In one or two instances when customers, through error, attempted to return merchandise which they had purchased elsewhere, the buyer recognized the mistake.

It was stated that customers, in general, were pleased by the change, since they preferred to discuss an adjustment with the buyer in the department where the merchandise had been purchased. Defective or worn merchandise taken in exchange was given to bazaars and other organizations for relief of the poor.

116. BADGER WATCH COMPANY¹

PURCHASE OF ADDITIONAL PLANT. Under the widely advertised brand "Badger," the company made and distributed watches to sell at \$1 through retailers everywhere in the United States. In 1910 the company bought at low cost the plant of the Lincoln Watch Company, and planned to produce "Badger-Lincoln" watches in two grades, to retail at from \$5 to \$15.

HIGHER PRICE LINE. The company decided that most of its advertising appropriation should be used to promote the new line. At the end of four years, the sales volume of Badger-Lincoln watches was unsatisfactory, but the sales of the \$1 watch had increased greatly.

(1910)

In 1910 the Badger Watch Company bought the plant and assets of the Lincoln Watch Company, which was in receivership. Although it had no definite plan for the use of the property, the Badger Watch Company deemed the purchase to be a real bargain.

Up to that time the Badger Watch Company had produced watches that retailed at \$1 each. They were advertised extensively and were sold by retail jewelry and other stores in nearly every city and town in the United States.

After the purchase of the Lincoln Watch Company, the Badger Watch Company planned to make a new line of watches to retail in nickel cases at \$5 each and in gold-filled cases at from \$7 to \$15. This product was to be sold under the "Badger-Lincoln" brand directly to retailers by the Badger Watch Company's salesmen. Inasmuch as the salesmen spent about half their time traveling, the new line was expected to reduce sub-

¹ Fictitious name used for purpose of disguise.

stantially the ratio of traveling expenses to sales; salesmen could utilize more advantageously the time needed for actual selling. The Lincoln plant was well equipped for production of Badger-Lincoln watches.

On the new watches, retailers were to be allowed a trade discount slightly less than their customary gross margin. The company undertook to maintain the resale prices as it had done previously on Badger watches and decided to allot most of the advertising appropriation for a period of several years to the Badger-Lincoln brand in order to put the new watches effectively before the public. The prestige and sales momentum already attained for Badger watches were expected to carry that line during the following few years.

During the four years after the purchase, \$520,000 was spent to advertise Badger-Lincoln watches. In the first year, although the Badger Watch Company did not make a profit from the new brand, it attained a satisfactory volume of sales. Nine thousand retailers purchased stocks of Badger-Lincoln watches. As anticipated, the average size of the orders was small. During the second year, the volume of sales increased substantially, but the orders were obtained chiefly from new customers. In the third year, the sales of Badger-Lincoln watches increased slightly, but the volume of repeat orders was still small. Out of 18,000 retailers that had purchased the Badger-Lincoln line during the first three years, only 7,000 had reordered and only 4,000 had placed as large repeat orders as had been expected. Because in earlier years the word Badger had been associated closely with less expensive watches, the new line was advertised during the fourth year merely as the Lincoln watch; nevertheless, sales declined slightly. Although during these four years the Badger watch was not advertised extensively and only normal effort was made for its sale, sales of Badger watches increased 31% the first year, 34% the second year, 23% the third year, and continued to increase during the fourth year.

An analysis of sales made during the four years in which the advertising had stressed almost entirely the higher-priced watches, showed that the permanent benefits had accrued chiefly to the original line. Consumers apparently had been influenced by the association of Badger watches with the more costly products.

117. WILDA BISCUIT COMPANY¹

ADDITION OF LOWER-PRICE LINE. At the request of its salesmen, the company, which manufactured biscuits and crackers, added a new brand of less expensive products to sell at prices 20% lower than those of the established brand. Sales were made directly to retailers.

DISCONTINUANCE OF LOWER-PRICE LINE. During the next 18 months, sales of the new line increased substantially but they were displacing the sales of the original brand. The company decided, therefore, to discontinue the lower-price line.²

(1912)

In 1912 the salesmen of the Wilda Biscuit Company requested that it manufacture an additional line of biscuits, of lower grade and price than the Wilda brand. The salesmen stated that an increase in the volume of sales could be secured, despite the competition of other producers, by obtaining distribution in retail stores which previously had been unable to sell the company's biscuits because of their high price.

The Wilda Biscuit Company manufactured high-quality package biscuits and crackers in 140 varieties, which it sold exclusively to retail grocers. It advertised extensively in the six-state area in which it operated; the company was well established and had gained a favorable reputation for the quality of its products. The biscuits were shipped to retailers immediately after manufacture; none were held in storage awaiting orders. The company employed 150 salesmen on a commission basis, who called on retail grocers in the districts which it served. Selling terms were either c.o.d. or open account, according to the rating of each customer.

Discussion of the request for a lower-quality line brought out the fact that such a product might injure the prestige of the Wilda brand, which the company had spent years in developing. It seemed probable, furthermore, that the credit ratings of the new customers would be less satisfactory than those of customers already served by the company.

In the opinion of the sales department, however, these difficulties could be overcome and the established brand protected if the new product were given a distinctive name which did not

¹Fictitious name used for purpose of disguise.

²See Hardy Confectionery Company, p. 424.

divulge the identity of the maker. The credit aspect offered no serious obstacle, because goods could be sold on c.o.d. terms.

An advantage of making the new line was that machinery could be utilized more completely. In the manufacture of biscuits, after the dough was mixed it was transferred to a machine performing three operations: panning, peeling, and cutting. At the end of the operations on this machine, the biscuits were ready for the oven. Each panning, peeling, and cutting machine was so placed that it supplied an oven. Frequently a series of machines were idle, and, because of their size, the idle time charges on them were heavy. The manufacture of a cheaper line of biscuits seemed justifiable if the sales permitted the company to eliminate idle machinery charges. No storing or purchasing difficulties were present; the labor force was adequate and competent to produce the additional line.

The company consequently decided to make, under a separate trade name, 18 new varieties of biscuits. These were not to be packaged, but shipped in cases. Because of this economy and the use of cheaper materials, the new brand could be sold at prices 20% lower than those of the Wilda variety. Salesmen were instructed not to solicit orders for the new biscuits from the established customers of the company but to use the new line to obtain orders from stores to which the company formerly had been unable to sell. The rate of salesmen's commission on the new line was slightly lower than that on the old line.

Records were kept of the sales of the two lines. Eighteen months after the lower-quality biscuits had been placed on the market the sales of that grade had shown a steady and substantial increase, whereas the sales of the Wilda brand had declined. From investigation, the company learned that the lower-quality product was displacing the original brand, because salesmen, despite instructions, were using the appeal of low price to obtain orders from customers who formerly had bought the higher-quality products. The company decided, therefore, to discontinue the manufacture of the lower-quality product and to concentrate on the development of the Wilda brand.

This decision made it again probable that there would be occasional periods when the full productive capacity of the plant could not be utilized. Adherence to a single quality policy, however, was deemed to be more important in the long run.

118. HARDY CONFECTIONERY COMPANY¹

MAINTENANCE OF QUALITY. The company made only one quality of candy, which retailed at from \$1 to \$1.75 per pound according to the selections and boxes. During the business depression of 1920, the salesmen urged production of lower-price candies. The company decided that it was inadvisable to market a cheaper-grade candy either under its established brand or under a new brand.

EXPERIMENTAL CHANGE IN PACKAGES. To meet the requests of the salesmen, the company offered candy of the usual quality but in less expensive boxes under a brand distinct from that previously established. This practice soon was discarded because it antagonized retailers of the established brand who also customarily sold lower-price brands of other manufacturers.²

(1920)

The Hardy Confectionery Company had been urged frequently by its salesmen to manufacture a cheaper grade of chocolates in order to compete with other brands sold at 65 and 80 cents a pound. Although many other candy manufacturers made two or more grades, the Hardy Confectionery Company always had maintained a one-quality policy. All its candies were sold under the name "Princess Chocolates." Prices ranged from \$1 to \$1.75 per pound, according to the selections and the boxes. In the fall of 1920, when the depression affected the candy business and it was unusually difficult to obtain orders, the salesmen put additional pressure on the executives to introduce a cheaper grade.

Three possibilities were investigated. The first was to manufacture a cheaper grade of chocolates, in which the materials were less expensive and less carefully manufactured. These chocolates could have been retailed profitably, under a brand name, in boxes at 60 to 80 cents per pound. As with higher-priced chocolates, it was essential that each selection should be named. For instance, the \$1.75 per pound boxes were known as "Our Pride," nut selections at \$1.50, as "Assorted Nuts." It was suggested that the cheaper grade of chocolates be sold as the "Princess Luscious," with the name "Princess" given prominence on each box.

This plan risked injury to the reputation of all "Princess"

¹Fictitious name used for purpose of disguise.

²See also Wilda Biscuit Company, p. 422.

brand chocolates because of the lower quality of the "Princess Luscious" chocolates. Retailers of "Princess Chocolates," moreover, might object to handling a cheaper grade under the same name, as they always had stressed them as high-grade candy and had purchased lower grades from other companies.

The second possibility also was to manufacture a cheaper grade, but to sell it under a distinct brand, such as "Vanity." This would have maintained the reputation of "Princess Chocolates," and at the same time have provided for a product to meet the requests of the salesmen. The use of a separate brand, however, presented weaknesses. The sales value of the well-known "Princess" name would be lost. This would have necessitated development of a reputation for "Vanity Chocolates." Salesmen of competitors might suggest to retailers that the "Vanity Chocolates" probably contained materials of the same quality as those used in the "Princess" brand, and that excessive profits were derived from the latter.

The third proposal was to make up a selection of the less expensive chocolates of the usual "Princess" quality, to be packed in neat but inexpensive lithographed boxes and sold as the "Princess" brand with the special name "Appropriate" placed on the package in addition to "Princess." Since these chocolates would be of the same quality as a portion of those in the more expensive selections, the reputation of the "Princess" brand might, perhaps, be safeguarded.

The third plan was adopted, and the Hardy Confectionery Company secured a ready sale for "Appropriate Chocolates." At first the salesmen were pleased with the innovation and began to ask for other selections of the less expensive varieties. Soon, however, they received numerous complaints from the retailers who always had featured "Princess Chocolates" as their best candy. These customers asked if the "Princess" brand was becoming of inferior grade; they objected to carrying the "Appropriate Chocolates" in competition with the brands of inexpensive chocolates which they already had introduced. As a result, the salesmen became less enthusiastic, and the company finally discontinued the sale of "Appropriate Chocolates" and returned to its former policy of selling only one grade of product. No further deviations from that policy were contemplated.

119. FOND DU LAC MILK COMPANY¹

ACQUISITION OF ESTABLISHED BRAND—PURCHASE OF ADDITIONAL PLANTS.

The company, which manufactured canned milk products under its Laurel brand, needed additional facilities and bought the plants of a competitor who also produced branded canned milk of the same quality.

CONCENTRATION ON ONE BRAND. Although the acquired brand had a wide distribution in markets where the Fond du Lac Milk Company's brand was not established fully, the company decided to concentrate its sales efforts on the Laurel brand.

(1921)

The Fond du Lac Milk Company, one of the largest manufacturers of canned milk in the United States, concluded in 1921 to launch a program of national advertising through color pages in the *Saturday Evening Post*, bill-boards in a hundred cities, and newspaper advertising in a few markets. All its product was sold under its own brand, Laurel Milk, and distributed by wholesalers and chain stores.

The company's original factories were located in the Middle West. As a result, the prestige of Laurel Milk had been established primarily in that territory and in the Southwest; distribution in the New England and Middle Atlantic states was relatively limited. Early in 1921, however, the Fond du Lac Milk Company needed additional milk for its well-known brand of Laurel Milk, the demand for which was to be increased by means of the national advertising. It acquired from a competitor four plants in Pennsylvania and New York. The low freight rates from these recently acquired plants to New England and the Middle Atlantic states promised to aid materially the expansion of sales in that northeastern territory.

In New England and the Middle Atlantic states there existed a moderately wide-spread distribution and good trade prestige for the Quaker brand of milk produced by the four acquired plants. Quaker Milk was a product of the same quality and sold at about the same price as Laurel Milk.

In a dozen markets in Pennsylvania, the Quaker Milk had fully 100% distribution in retail stores. In several other markets there was 50% distribution, and in still others, 25% distribution.

¹ Fictitious name used for purpose of disguise.

The company was forced to consider whether or not it should discontinue the use of the Quaker brand on the product of the acquired plants. Because of the contemplated national campaign for the establishment of the Laurel brand, it appeared improvident to support vigorously the Quaker brand when it could be sold as Laurel Milk. If the Quaker brand were dropped, however, sales might be lost in the markets where it was in demand. Competitors of both brands were prophesying to those wholesalers who were loyal to the Quaker brand that sooner or later the Fond du Lac Milk Company would fail to support or would discontinue entirely the Quaker brand. These competitors, consequently, were urging the wholesalers to buy other brands of condensed milk.

There was a real asset in the established demand for Quaker brand from consumers and distributors, and the Laurel brand might not be able readily to displace it in the local markets. The Fond du Lac Milk Company decided, however, to discontinue shipments of Quaker Milk as soon as the Laurel brand was well established. The company's prosperity depended primarily upon the success of the Laurel brand; the purchase of the new brand had been chiefly for the purpose of obtaining the volume of output necessary for national distribution of Laurel Milk. The widest possible distribution of the latter was desired. The company decided that there should be no delay in establishing a demand for it in all markets, despite the risk of decreased sales during the transitional period.

In order to minimize the disadvantages of the change in brands, the company placed newspaper advertisements in the localities most accustomed to Quaker Milk. These advertisements stated prominently that Laurel Milk would be supplied subsequently by retailers, when Quaker Milk was requested. It was explained that both products were of identical quality, and that a change had been made in name only.

Wholesalers and retailers in markets where Quaker Milk predominated were not informed by letter of the change. They were visited, however, by the company's missionary salesmen, who explained the policy and supplied copies of the local newspaper advertisements used by the company. These copies were placed in the retailers' stores.

120. CADBURY DEPARTMENT STORE¹

BASEMENT STORE. The departments of the main store stocked merchandise attractive to customers with moderate incomes; the basement store was under the same management and carried complete lines of staple merchandise, lower in quality and price than that sold in the main store. The merchandise competed somewhat with that in the main departments, and excessive inventories were frequent.

BARGAIN BASEMENT. After a decline in sales in 1921, the company decided to replace the basement store with a bargain basement under a separate manager. The bargain basement did not compete with the main store, but attracted a different class of purchasers. The bargain basement did not attempt to carry complete lines, but bought special lots of merchandise at low prices whenever they were available.

(1921)

When sales declined in the basement store of the Cadbury Department Store, early in 1921, an entire reorganization of the basement was contemplated. It was proposed to install a bargain basement with a competent manager in complete charge.

In the basement store, many articles sold by the upstairs departments were duplicated, and a complete line of staple merchandise of a lower grade than that sold in the upstairs departments was stocked. A different type of merchandise was placed on special sale each day. Although the management tried to maintain careful supervision, the basement store frequently competed with departments in the main store by offering similar merchandise at lower prices.

The five merchandise managers in charge of departments of the main store controlled similar departments in the basement store. Separate buyers were employed, however, for all except the shoe department. One buyer bought shoes for both the main store and the basement.

No uniform policy had been pursued while the control of the basement had been delegated to the five merchandise managers. Since they were interested chiefly in the main store, stocks had been allowed to accumulate in the basement, and insufficient mark-downs had been taken.

The Cadbury Department Store, which was located in the principal retail district of the city, had a well-established reputation

¹ Fictitious name used for purpose of disguise.

for selling merchandise of a dependable quality. Although it served a few wealthy customers, the store aimed to attract those with moderate incomes. One purpose of the basement store had been to relieve the main store of a class of customers that was not altogether desirable. In addition, if people of limited means bought in the basement, it was expected that the sales volume of the store could be increased without lowering the prestige of the store as a whole.

A bargain basement, as advocated, was unlike a basement store in that it did not carry complete stocks or full lines of merchandise. Frequently only one or two sizes of a particular garment were purchased at price concessions which allowed for resale of the garments at unusually low prices. By purchasing job lots at auction, seconds, mill ends, and bankrupt stock, buyers were able to obtain marked reductions from list prices. It was impossible to buy merchandise on such favorable terms if a full assortment of sizes was required. Stocks in a bargain basement, therefore, were not well balanced. Purchases and stocks could not be planned in advance, since buyers purchased any salable merchandise that they could secure at reduced prices. A rapid stock-turn rather than a high mark-up was desired. Bargain basement buyers often were able to secure cash discounts as high as 8% to 12%.

Men who were successful in merchandising for upstairs departments usually could not adapt their buying policies to the requirements of a bargain basement. It was suggested, therefore, that the control formerly exercised by the five merchandise managers be vested in the new basement manager and that the bargain basement be operated as a separate merchandising unit. The bargain basement was not to be used as an outlet for merchandise which was found to be unsatisfactory in the upstairs departments.

In the opinion of one executive, a distinct difference between the quality of merchandise and prices in the basement and in the upstairs departments should be maintained. A successful basement seldom competed with the upstairs departments. In a department store which appealed only to wealthy customers and carried nothing but expensive merchandise, it was said to be feasible to operate a basement store which sold complete lines

of regular merchandise of a much cheaper grade than that of the main store.

The Cadbury Department Store's customers, however, were chiefly those with moderate incomes, and merchandise was sold at several different price levels in the main store. It had been impossible, therefore, for the company to operate a basement store that carried complete lines without entering into competition with the regular departments. In general, the same class of customers had patronized both stores. If a bargain basement were instituted, a new type of customer might be attracted to the store, and the sales volume increased thereby. A bargain basement, if it secured the patronage of a different class of customers, would not compete with the upstairs departments.

One disadvantage of a bargain basement was the possible loss in the store's prestige that it might occasion. Another objection was that the store could not give such liberal adjustments on merchandise which consisted largely of mill ends, job lots, and bankrupt stocks as were given on merchandise in the upstairs departments. Buyers were not to be permitted, however, to purchase merchandise of this nature that could not be warranted to be satisfactory. Merchandise sold as "seconds" by a manufacturer could not be warranted free from defects. Whenever "seconds" were purchased, therefore, it was necessary to indicate clearly that the merchandise was of second quality.

A bargain basement was installed by the Cadbury Department Store in February, 1921. The basement manager was placed in complete control, and the basement was operated as a distinct merchandising branch with its own buyers and advertising department. In order to avoid lowering the prestige of the entire store, basement merchandise was not displayed in the store windows. The advertising for the basement was not included in the same advertisement or on the same page of a newspaper as that of the upstairs store. Elevator service was not furnished to the basement, and customers were required to use the open stairways. Although customers were encouraged to carry their purchases with them, free delivery service was given. Charge accounts could be opened under the same conditions as elsewhere in the store. The aim of the manager of the bargain basement was to increase the volume of sales by selling at a narrow margin

of profit. Because of the greater rate of stock-turn, the management was content with a lower rate of mark-up in the basement than that maintained in the upstairs store. In August, 1923, two years after the bargain basement was installed, the results were deemed satisfactory. A large increase in the number of customers, in the volume of sales, and in the net profit shown by the basement took place. No unfavorable effect on the prestige of the upstairs departments was observed.

121. SUPERIOR MILK COMPANY¹

ENFORCEMENT OF MANUFACTURER'S DISCOUNT TERMS. The company manufactured canned milk which it sold to wholesalers on terms of 2% 10 days, 30 days net. Eighty per cent of the wholesalers took discounts. An increasing number of these deducted discounts from payments made subsequent to the time limit. The company decided to enforce the discount terms in order to assure customers of impartial treatment. Within a year, 90% of the wholesalers paid within the time limit.

(1922)

The Superior Milk Company, of Kansas City, experienced difficulties in its collections from customers who deducted discounts from payments made on dates which were subsequent to the discount limit. Terms of sales were 2% 10 days, 30 days net. Discounts occasionally were allowed after the time limit had expired. Since the frequency with which customers violated the discount arrangement was increasing, the sales and credit departments, in July, 1922, took under advisement the maintenance of a rigid policy toward discounts.

The Superior Milk Company had been in existence for 25 years. It produced canned milk in 6- and 16-ounce sizes, which retailed at approximately 7 and 15 cents respectively. Net sales had been increased to approximately \$18,000,000 per year; national distribution was secured by district sales headquarters, each under a district sales manager, located in 13 of the principal cities.

The milk was sold in cases which contained 96 six-ounce cans or 48 sixteen-ounce cans. Wholesale prices of the cases were \$4.75 and \$5, respectively. More than 90% of the product was

¹ Fictitious name used for purpose of disguise.

sold to wholesalers, and the remainder to retail chain stores which had facilities for adequate retail distribution of canned milk.

The company had no exclusive sales agreements with any of its 5,000 wholesalers. In July, 1922, about 80% of customers took discounts, although of that number, all did not pay within the 10-day period. The company lost annually about one-tenth of 1% of its sales, because of uncollectible accounts.

Embarrassing situations were created when customers deducted the 2% from payments made after expiration of the discount period. In many instances, the concessions had been granted, so that the company not uncommonly accepted payments made 15 days or more after the date of invoice, from which, nevertheless, the discount had been subtracted. It was known that similar terms of sale were offered by a majority of the company's most important competitors. The latter's policies in regard to insistence upon observance of the time limit, however, were not ascertainable.

It was maintained that the company exposed itself to charges of partiality and to resultant ill will when it accepted payments, less the discount, which were not made within the prescribed time; other wholesalers who heard of the concession justifiably might demand the same consideration. The credit department contended that a wholesaler lost respect for the company when the latter failed to enforce its discount terms. The treasurer explained that rigid enforcement of the 10-day limit also should increase the working capital turnover of the company, and consequently reduce interest charges on borrowed capital.

Many wholesale firms, however, paid their bills on specified days of the month, as, for example, the fifth and twenty-fifth. If the company refused to allow exceptions to the discount terms, there might be friction with wholesalers. Those who always had paid for invoiced shipments on fixed dates would resent loss of the discount when payment dates happened not to coincide with the requirements. In addition, wholesalers frequently were prevented by unusual contingencies from paying within 10 days. Clerical mistakes occasionally caused payments to be delayed 12 or 13 days after date of invoice. Under such conditions, dissatisfaction seemed inevitable if the Superior Milk Company

refused to accept the payment with the 10-day discount deducted.

The credit department officials deemed it possible, however, to convince wholesalers of the necessity for a strict enforcement of the 10-day limit. Sales of canned milk represented about 8% of the total sales made by the average wholesaler. Since the margin of profit obtained by wholesalers was figured closely, it was essential that they secure quick stock-turn of staple, low-profit products, such as canned milk. Each wholesaler should take advantage of the discount offered by the Superior Milk Company, in order to make an operating profit on his canned milk sales. By means of a strict enforcement of the discount terms, the company could emphasize these facts. Also, if no extensions were allowed, wholesalers would be confident that competing distributors were allowed identical terms. This should create confidence in the Superior Milk Company.

Some of the salesmen asserted, however, that refusal to allow discounts on payments made in 12 or 14 days after invoice dates might antagonize those customers who had distributed the product for years, and cause them to purchase from other manufacturers who produced the same grade of canned milk. The Superior Milk Company could obtain successful distribution only through giving service and satisfaction to the wholesalers. On the other hand, it was advantageous to inform customers that similar terms would be offered to all and that no concessions would be made to competing distributors. The credit department was of the opinion that this appeal ought to have a desirable effect on the wholesalers who operated upon a systematic basis, even though, in exceptional instances, strict enforcement might be detrimental to the Superior Milk Company.

The Superior Milk Company decided to adopt the proposal for a strict enforcement of the 2% 10 day, 30 days net, selling terms. At first, the policy aroused the antagonism of those wholesalers who customarily had disregarded the time limit.

Carefully prepared letters from the credit department, and effective cooperation by the salesmen, however, eased the situation. Within a year, the number of wholesalers who took their discounts increased from 80% to 90%, and all these paid within the 10-day period. This experience convinced the Superior Milk

Company that strict enforcement operated to the advantage and satisfaction both of itself and of its customers.

122. ARNOLD MACHINE COMPANY¹

INFLUENCE OF POST-WAR DEPRESSION ON SALES ORGANIZATION IN EUROPE.

Although in 1922 the European sales of the textile machinery which the company produced were greatly below those made in 1914, the company decided to make only minor reductions in its European branch sales organization, because it expected improved conditions and because keen competition existed, especially from European producers who were taking advantage of the exchange situation.

PRICE MAINTENANCE, DESPITE COMPETITIVE PRICE-CUTTING. The company also decided not to grant requests for price concessions, because such a practice might establish an unfavorable precedent.

(1922)

The Arnold Machine Company manufactured textile machinery in New England. In the fiscal year from July 1, 1913, to June 30, 1914, the company's total output was valued at \$8,000,000; the company distributed 50% of its products in the United States and exported 50%; 30% to European countries and 20% to other foreign countries. The 30% to European countries was divided as follows: England 7.5%, France 6%, Italy and Belgium 3.6% each, Spain 3.3%, Norway and Sweden 2.4%, Holland 1.5%, and Russia and Central Europe 2.1%.

In May, 1922, the value of the total output was at the rate of \$6,000,000 per year. The company was distributing 67% of its products in the United States and 33% in foreign countries; 11% to European countries and 22% to all others.

Sales in England were approximately 30% of those before the war, but the managers believed that the British textile industry as a whole was being reestablished rapidly; the market for textile machinery, therefore, was thought to be promising. The cotton industry, however, was improving more slowly than in the United States, but wool and worsted makers were abreast of United States companies of corresponding capacity. The artificial silk trade also showed distinct advancement. Labor difficulties and unrest in the colonies, however, were disturbing factors.

¹Fictitious name used for purpose of disguise.

Estimates of French conditions showed that the textile industry in France was decidedly behind that in England. Approximately one-fourth of the Arnold Machine Company's sales in France during 1913 were made in textile regions which were devastated in the World War. In the spring of 1922, French orders were only from 15% to 25% of the amounts that had been normal prior to 1914. The company's advices up to May 1, 1922, were that textile manufacturers in the devastated regions of France were beginning to place orders for machinery, since the restoration of the mill buildings was being completed. In other parts of France, the company's sales ranged from 30% to 50% of the pre-war average. Both Belgium and Holland were purchasing approximately one-half, and Spain one-quarter, of their former quantities of machinery. Italy, Norway and Sweden, Russia, and Central Europe were out of the market entirely.

Because of this diminution in sales, several executives believed that the European sales expense should be reduced to correspond with the volume of orders. The company, furthermore, was receiving many requests for price concessions to offset exchange depreciation.

The company's machines were for the most part automatic, and were protected thoroughly by patents. They ranged in price from \$50 to \$1,000, but for a majority of them the prices were from \$300 to \$550 each. With proper care each machine lasted from 10 to 15 years. The basic principle of all the machines was the same; although machines frequently were devised for special work, only alterations in fittings or minor parts usually were required. These changes occurred so frequently that the company did not assemble machines ordinarily until it received orders for them.

Sales in Europe were made through a branch in England, another in France, and agents in several other countries. Each branch consisted of sales and financial offices, a warehouse supplied with a stock of standard machines and parts, and a machine shop to make repairs and to produce the small parts necessary to adapt machines for special uses. The company also maintained a stock of machines and parts in bond at Antwerp, because of the economical shipping facilities offered at that port.

The English branch supervised sales in the British Isles. It had 12 salesmen-engineers. The French branch was responsible

for sales in France, except Alsace-Lorraine, and in Belgium and Holland. In addition, it exercised general oversight over all the company's continental activities. Eight salesmen-engineers from this office visited all continental countries, and occasionally went outside of Europe. Three or four others at the United States office were dispatched to Europe whenever and wherever they were needed. The United States office billed material to the branches on open account and in turn they invoiced the machines to purchasing companies. Occasionally, however, a purchaser who had used the Arnold Machine Company's products for several years was billed directly from the United States office. Except in these instances, the entire credit control was vested in the branch offices.

The traveling salesmen-engineers canvassed actual and potential users of the company's products. They made minor repairs and adjustments to machines in operation, and pointed out more effective methods of utilization. In England, France, Belgium, and Holland they usually took the orders. In other countries the traveling salesmen-engineers generally gave the prospective purchaser specifications only, and the mill owner secured the equipment through any agent that he desired. This course was followed because many mill owners wanted to make all their purchases of imported materials from one agent. If the buyers wished, however, the salesmen-engineers recommended the company's agent, or arranged that the branch in charge of the district sell the machine directly to the customer. The branches and agencies received the established discount for all sales made within their territories whether the orders were placed by them or by another importer.

The Arnold Machine Company selected as agents firms which carried general textile mill machinery and supplies, including spinning and weaving machinery. The company's agents, however, did not sell competing machines. The United States office of the Arnold Machine Company billed orders to agents at an agreed discount on different terms: cash or sight, 30-day or 60-day drafts against documents. These drafts, however, were interest bearing. The company made occasional exceptions and shipped on open account to agents who had represented it for several years. Agents invoiced the goods to the buyer, and thus assumed the credit risk. Although the company did not require

deposits, agents frequently insisted upon advance payments of from 25% to 50%. Although the main office had direct relations with the agents, it referred any difficulties with Continental European agents which could not be settled by mail, to the Paris branch which was the company's official representative.

The company had one agency in each of the following countries: Italy, Spain, Portugal, Norway, Sweden, and Denmark. The countries served in groups by one agent were: Switzerland and Alsace-Lorraine; Germany and Poland; and Austria, Czechoslovakia, and Russia. Although agents consummated all transactions in Asia, Australia, Africa, and South America, 10 traveling salesmen-engineers who worked from the home office promoted most of the sales in those countries.

There seemed to be no reason for discontinuing entirely the stock at Antwerp although it could be reduced. No saving from changes in agency connections appeared possible, since the agents were paid only for orders secured in their territories. A change of agents involved repurchase of the agents' stocks of machines and parts.

It was necessary to maintain the branches in England and in France, with their existing departments, if the company expected to increase or maintain its volume of sales. Thus the only expedient saving was in reducing the number of salesmen-engineers. These men's salaries averaged \$6,000 a year each, in addition to traveling expenses, which usually equaled or exceeded the salaries. In the spring of 1922, none of the salesmen-engineers was securing sufficient orders to justify the expense. These men had been with the company not less than five or six years and most of them from ten to fifteen years. They had worked for one or two years either at the factory in the United States or in the machine shop in England. In the English and French branches, most of the salesmen-engineers were natives, although there were a few Americans. The European branch salesmen, half of whom were married, made their homes near their respective headquarters.

Traveling expenses could be saved if the younger salesmen were returned temporarily to the positions from which they had been promoted. The company then could discharge employees such as erectors and clerks, whom it was possible to replace easily. The remaining salesmen would have wider territories.

Other executives urged extreme caution in the reduction of the sales organization. The depression in the European demand for textile machinery was causing intense competition between American, British, Swiss, and German makers of such equipment. Sales by European manufacturers in their own and nearby countries were facilitated by the depreciated exchanges. Because this situation seemed temporary, however, and because connections with textile manufacturers required several years to establish, the company believed it advantageous to have a complete organization which, until buying recommenced, could retain former customers, secure additional customers, repair machines, and give engineering service.

The Arnold Machine Company decided, therefore, to retain the force of salesmen-engineers. It customarily granted to salesmen bonuses figured on the company's total net profit for each year. These payments were discontinued in the interest of operating economy, and the field trips were made less frequently. The number of erectors, mechanics, and clerks at the branches was reduced.

The second problem before the company was the reply to be made to European customers who requested concessions of from 2% to 10% in prices. In May, 1922, the company also had orders from England, France, Belgium, and Spain, to be shipped only if the exchange rate reached specified points. In Italy and Central Europe the exchange was so depreciated that no orders were obtainable. The company had been accustomed to make all its quotations, f.a.s., New York, although it generally secured the shipping space and insurance, and charged for them on its invoices. Salesmen-engineers and agents quoted prices in dollars except in England and France, where the pound and franc were used.

Previously, the company had not granted price concessions because it had found that the merit of its machines generally had more weight than the purchase price. There was doubt, however, as to whether quality was more important than price in 1922. The scarcity of foreign orders had reduced the company's production to about 70% of capacity, and the executives were anxious to increase the volume. Hence, some of them favored the policy of granting moderate concessions when it appeared that normal prices would cause a real hardship. They

were willing to make special reductions to secure orders for quantity installations and to retain customers. The concessions requested, however, would not bring the prices for the Arnold Machine Company's machines into the range quoted for European products.

Other executives opposed a change of policy because any deviation from established prices would create a precedent likely to reflect unfavorably on the company. Former refusals to allow price concessions had not resulted in loss of sales. Customers had not argued over the price if their requests were not granted. These executives relied on the quality of the company's machines and the ability of the salesmen-engineers to procure new orders.

The Arnold Machine company, therefore, decided not to allow price concessions. It was believed that although this policy might make immediate sales difficult, sales over a period of years would be greater. During the remainder of 1922 and the year 1923, sales in England increased from 30% to 60% of the pre-war basis. Cotton manufacturing conditions improved. The failure of English purchases of machinery to equal those prior to 1914 was the result primarily of prolonged shutdowns. The artificial-silk industry progressed rapidly and was buying more machinery than it had before the World War. Wool and worsted manufacturers, however, had not advanced proportionately; their output per spindle was not more than 40% of that of companies with similar capacity in the United States.

There was a slight improvement in France: purchases from that country were about 50% of the pre-war average. Reconstruction was progressing rapidly. The two principal obstacles met by the Arnold Machine Company were the failure of French exchange to improve markedly and the extensive sale of cheap German machines in Eastern France. Sales in Belgium, Holland, and Spain increased from 10% to 20% over 1922. No sales were made in Italy in 1922, but the next year they were 50% of the pre-war volume. Norway and Sweden, which also had been out of the market in 1922, were buying more than 30% of their pre-war purchases at the end of 1923. Russia and Central Europe still placed infrequent and unimportant orders. Between the spring of 1922 and the beginning of 1924, the company's sales to Europe increased approximately 20%.

123. COHOON RADIATOR COMPANY¹

SEASONAL FLUCTUATION IN SALES. Seventy per cent of the annual sales of the company usually were for delivery between July 1 and January 1.

SLIDING SCALE OF PRICES. In order to offset the seasonal carrying charges, the company decided to establish a sliding scale of prices based on a division of the year into five periods.

Seventy per cent of the annual sales of the Cohoon Radiator Company usually were for deliveries between July 1 and January 1; 30%, for deliveries during the first six months. The factories were operated at capacity the entire year, and the excess production of the first half-year was stored in order to meet the later demands, which exceeded the production of the company's plants during the last half of each year.

Fifty per cent of the company's output was sold to contractors for future deliveries, which extended from four to eighteen months after receipt of the orders. The seasonal demand, together with the trade practice of contracting for future deliveries, gave rise to a perplexing problem in the formulation of a price policy. A seasonal increase in production costs also occurred each year between March 1 and October 1. This increase averaged 13% of the March 1 cost. It was caused by several factors: seasonal advances in the price of raw material; shortage of labor in foundry work during the summer and fall months with consequently lowered efficiency; higher costs caused by forced production in excess of normal capacity; and higher costs of handling peak-load shipments at a time when many customers insisted on rush deliveries.

Prices for future delivery based on production costs were not satisfactory, since they were incorrect on the delivery dates. On a rising market, the company found that 80% of its products were sold for future delivery.

Many contractors operated on a small scale. An annual total of 10 contracts per contractor for the installation of heating plants in dwellings was deemed representative. Since more than 100 types of radiators were manufactured, these contractors did not carry stocks. Their needs were not known until they had received contracts from the builders. Although a contract

¹Fictitious name used for purpose of disguise.

for heating equipment was made simultaneously with the contract for the construction of a building, the installation date was dependent upon the progress of the building and the length of time required for its erection. There usually was a period of from four to six months between the date of the contract for heating equipment and its installation in a private dwelling. In large office buildings or hotels, there had been occasional periods of 18 months. According to the statistical department of the Cohoon Radiator Company, six months was the average length of elapsed time between the receipt of contractors' orders and the shipment of equipment.

It had been the company's policy to accept orders for future delivery at the prices current when the orders were booked. Price quotations were fixed to yield the company, in addition to manufacturing profit, sufficient return to cover carrying charges, which were $3\frac{1}{2}\%$ of the cost for a period of six months. A new price policy was desired which would yield an additional amount to equal the increased seasonal production costs on goods sold for future delivery. It was estimated that the $3\frac{1}{2}\%$ added as carrying charges on an order received in May for October delivery was 5% less than the actual increased cost of filling the order. This estimate was based on an average of the carrying charges plus the seasonal increases in production costs.

Either of two methods might have obtained the desired results: the first was to bill goods at the prices effective on the date of shipment; the other, to establish a sliding scale of prices. The former was undesirable since it did not provide the heating contractors with definite prices on which to make their bids; it was necessary for them to know the prices at which they could obtain the materials for installations. The contracts with those purchasers had not been subject to cancelation or to change of price. The company desired to retain this form of contract. It also deemed a "spot and future" price policy of this type conducive to disputes, particularly if factory conditions prevented shipment of equipment on a date requested. The company, therefore, adopted the sliding scale of prices.

The year then was divided into five periods, and for each period prices were determined which would absorb the rising seasonal production costs and carrying charges. The first period, taken as the base, included February, March, and April. The second

period included May and June and its price was $2\frac{1}{4}\%$ higher than that of the first period. The third period covered July and August, and during that period demand began to exceed the production supply of the plants. The price for these two months was $5\frac{1}{4}\%$ higher than that for the first period. The fourth period included September, October, and November, and the price was $8\frac{1}{2}\%$ higher than the base price. During these three months current demand was double the factory output. The last period was for December and January when the supply again equaled the demand, and as a result prices were lowered to $6\frac{3}{4}\%$ over base prices. At the end of January a new base price was figured.

124. SHELDON CHAIN-STORE COMPANY¹

PRODUCTION ECONOMIES OF VERTICAL INTEGRATION. This grocery chain store company could not obtain bread from independent bakers at adequate discounts; consequently it established its own bakery. Production costs in this bakery were estimated to be lower than those of the independent bakers.

INTRODUCTORY PRICES. The new bread could have been sold at the prices prevailing in other stores, or at lower prices. In order to obtain rapidly a large volume of sales, the company decided, despite risk of retaliatory price competition, to offer bread at 2 cents per loaf less than prevailing prices.

(1923)

The Sheldon Chain-Store Company operated a chain of 800 grocery stores in and near an important city. It purchased the bread sold in its stores from three independent bakeries. The company was unable to secure quantity discounts from the bakeries and was forced to pay the same price as unit grocery stores. In the company's stores, bread was sold mainly as a convenience to customers, and no sales efforts were expended to increase its sale. In 1923, in order to secure a greater profit from the sale of bread, the Sheldon Chain-Store Company established a bakery with a capacity sufficient to supply all its stores. A study of probable costs indicated that the usual 11-cent loaf could be retailed at 9 cents and the 8-cent size at 6 cents.

¹Fictitious name used for purpose of disguise.

It was possible to sell at the reduced prices because the company's cost of production was estimated to be lower than that of independent bakeries. Modern equipment, which produced at minimum cost, had been installed. The bakery was operated as a department of the company's main office and warehouse, with consequent economies in fixed charges, such as those for administration and accounting. The cost of raw materials was low, because purchases were made on a larger scale than those of most other bakeries in the vicinity, and cash discounts always were taken.

The tentative costs on which the suggested prices were based were accepted as accurate. The Sheldon Chain-Store Company owned a portion of the stock of a similar bakery operated in another city. The costs in the latter were used in the compilation of estimates for the new bakery.

The chief advantage to be derived from selling at a reduction of 2 cents per loaf below prevailing prices was the increase in quantity of bread sales to be secured. As a staple commodity with a definitely established price level, bread offered at a decreased price was likely to attract additional purchasers, and might be used as a leader for that purpose. The executives of the Sheldon Chain-Store Company estimated the probable increase in bread sales to be one-third of the quantity formerly sold. The company was willing to sell at one-half the percentage of profit on each loaf realized by independent bakeries, because of the increase in sales.

Introduction of a new brand of bread, furthermore, would be facilitated by a reduced price. The bread purchased from bakeries by the Sheldon Chain-Store Company had been sold under trade-marks developed by the bakeries and well known to the public. Purchasers were not likely to demand a new brand unless interested by a special price inducement.

In opposition to the proposal, it was pointed out that if the price were fixed at the prevailing level, an increased percentage of gross margin was to be realized. The company was confident that its bread equaled in quality any other brand on the market, because it was made according to the formula used successfully in the bakery upon which costs were based. Full value could be given the public if the prices were fixed at 11 cents and 8 cents. Although the introduction of a new brand at the established price

would be difficult, aggressive sales efforts, such as attempted substitution for brands demanded by customers, special displays in stores, and advertising campaigns, could be used to develop demand for the bread on a quality basis. This type of appeal might be more permanent than one based on price.

A possible result of a low price was that competitors might reduce their prices to the same level. In that event, the company might be forced to adopt aggressive sales methods in order to sell the new brand. It was urged that active sales efforts be instituted at the start, without a reduction in price, so that active competition on a lower price level would not be invited.

The officers, however, were of the opinion that none of the competitors could sell bread so profitably at the low prices contemplated. Since an increased volume of sales probably could be secured by price reductions, the Sheldon Chain-Store Company decided to sell the 11-cent size for 9 cents and the 8-cent size for 6 cents. During the first week in which the new brand was supplied to the stores, the total quantity of bread sold increased 55% above the sales of previous weeks.

125. HILTON DEPARTMENT STORE¹

DISCONTINUANCE OF CHARGES FOR CREDIT AND DELIVERY. A plan was adopted by the department store whereby customers were charged 50 cents a month for credit service and 10 cents per package delivered. In the first month, a decline in the number of deliveries more than doubled the delivery cost per unit. During 10 months, cash sales increased by \$3,000,000 but credit sales declined by \$1,000,000. The company decided to discontinue the extra charges in order to maintain customers' good-will and to strengthen the store's competitive position.

(1919)

An analysis of the credit and delivery services of the Hilton Department Store, in 1917, as a result of a suggestion of the Commercial Economy Board of the Council of National Defense for one delivery a day in the interests of economy, showed that 7% of total sales transactions were delivered and that credit was extended on 10% of the total sales transactions, which amounted to 25% of the volume of sales. On December 1, 1917, the com-

¹Fictitious name used for purpose of disguise.

pany instituted the so-called "three-way plan" in order to require credit and delivery customers to pay for the special service rendered to them, and to encourage cash and carry transactions. Under this arrangement, three methods of purchasing were available to patrons: cash and carry, whereby the retail price was paid; cash and delivery, whereby 10 cents per package for delivery was added to the retail price; and credit and delivery, whereby 50 cents per month for the credit privilege was charged to the customer's account, in addition to the retail price and the 10 cents per package for delivery. The 50 cents debit for the credit privilege was entered on the customer's account with the first item of each month.

This plan, although deemed by the management to be sound in principle, met with such resistance from a majority of the store's customers that reconsideration became necessary.

Packages were sent to the delivery department from wrapping desks situated in various parts of the store. Large departments had individual desks, but several small ones commonly were served by a single desk. If a customer bought in several departments, therefore, it occurred frequently that all purchases were not wrapped at one desk and, consequently, were not delivered in one package. There were two ways in which customers could secure delivery, in one package, of several purchases made during a single visit to the store. The first was to carry all purchases until the final one was made, and then have them wrapped together. The second was by the use of a series of coupons, called a "traveler," one of which was detached by the salesperson and pinned to each article at the time of purchase. Packages with traveler coupons were held in the shipping department until the end of the day, when those with the same coupon number were packed together for delivery as a single package. Either method incurred only one delivery charge.

Customers objected to the charge for delivery because they previously had become accustomed to free delivery and considered it a service to which they were entitled without additional payment. Both methods of insuring only one delivery charge involved elements of inconvenience. The first necessitated that the customer carry bundles until the final purchase was made; thus packages might be lost if left on a counter while other merchandise was being inspected. The second often delayed

delivery until the following day. Many articles necessitated delivery service because of their bulk or weight. Competing stores, furthermore, continued to offer free delivery service to their customers.

The shipping department reported that deliveries normally reached a high peak during December. A package, irrespective of size, was one count. Extra counts were given for c.o.d. shipments, valuations over \$50, and bulk shipments, such as trunks, crates, and baby carriages. Statistics compiled of the number of counts handled, the total cost of the department, and the average cost per count, for December, 1917, and December, 1918, were as presented in Table 32.

TABLE 32

AVERAGE COST OF HANDLING COUNTS IN SHIPPING DEPARTMENT, HILTON DEPARTMENT STORE, DECEMBER, 1917, AND DECEMBER, 1918

Month	Number of Selling Days	Number of Counts Handled Deliveries and Returns	Total Cost of Department	Average Cost per Count in Cents
December, 1917	25	91,351	\$12,379.00	13.6
December, 1918	25	39,282	11,013.13	28.0

These figures showed that deliveries had declined to such a marked extent, during December, 1918, that the cost per count had more than doubled as compared with December of the previous year. During the ensuing five months the cost per count was consistently higher than during the same months of the two preceding years.

For these reasons, the three-way plan so far as it affected delivery was discontinued on June 1, 1919.

Great difficulty had been encountered in the determination of a fair basis for an equitable distribution to customers of the cost of granting credit. The management rejected as impractical a plan for granting a discount for prompt payment. Addition of a charge for credit in the form of a fixed percentage of the retail price placed an unfair burden on expensive articles, since there was no appreciably greater expense involved in handling credit transactions in furs than in hair nets. Finally, the average monthly expense of handling credit sales for one year was divided by the average number of monthly bills rendered. This computa-

tion indicated that a payment of 50 cents per month by those who used the credit service¹ would cover the expense incurred.

Conflicting sentiments were aroused by the credit service charge. Strong resistance was encountered from a majority of the store's credit customers, who were of the opinion that the retail price should include this service. During the 10 months that this plan was in operation, cash sales increased by \$3,000,000, but credit sales declined by \$1,000,000. The management realized that the increase in cash sales might have offset the decline in credit sales, but the increase in cash sales presumably was attributable chiefly to the existing inflation of commodity price levels. It was impossible, consequently, to determine whether former credit customers had contributed to the increase of cash sales, or whether the accounts that had become inactive represented patronage diverted to competing stores that had no separate charges for credit service. The management feared that dissatisfaction with the monthly credit charge had weakened the competitive position of the Hilton Department Store. With the decrease in the number of active charge accounts the income derived from the 50-cent monthly charge was no longer adequate to cover the cost of granting credit.

Many endorsements of the plan had been received from business men, and from a few customers, who realized the propriety of charging credit customers with the additional costs involved in that type of sale. The company's experience, on the other hand, gave evidence that the average credit customer opposed the allocation of credit administrative expenses directly to credit accounts. Apparently, it was a fixed buying habit to expect only one price for an article, regardless of the method of purchase, and for that reason, the charge for credit service diverted sales.

The company decided, therefore, after a 10 months' trial, to discontinue the charge for credit service¹, in order to strengthen the competitive position of the store and to retain the good-will of its clientele.

126. WETHERELL DEPARTMENT STORE¹

ALLOCATION OF RENTAL CHARGES. When the company entered its new eight-story department-store building, it assigned rent arbitrarily on the

¹Fictitious name used for purpose of disguise.

basis of past experience to each floor according to estimated sales for that floor. No rental was charged to the offices and general service departments. Since there was an ideal location for each department, the management decided to allocate rent within a floor on a square-foot basis at the rate previously determined for the floor.

At the time the Wetherell Department Store entered its new eight-story department-store building, the management had to establish a basis for the proration of rent to selling departments. These departments were located on the first six floors. The factors which governed the location of each department were: the type of merchandise carried, the custom of the trade, and the buying habits of customers. For example, it was an accepted theory that small wares should be placed on the first floor, because articles in this department usually were purchased hastily. Garments and clothing, on the other hand, were selected more carefully, and a longer time was required for their purchase. Departments selling garments and clothing, accordingly, could be placed on upper floors with less danger of a resultant decrease in sales.

The departments, classified in accordance with the standard merchandise classification of the Controllers' Congress of the National Retail Dry-Goods Association, were located as follows:

BASEMENT: Bargain basement and house engineering department.

FIRST FLOOR: *Small Wares:* Jewelry, leather goods, toilet goods, handkerchiefs, umbrellas.
Women's Ready-to-Wear Accessories: Gloves, hosiery, knit underwear.
Dry-Goods: Women's neckwear, veilings.
Men's Wear: Men's furnishings.

SECOND FLOOR: *Men's Wear:* Men's clothing, custom tailoring.
Boys' Wear: Boys' clothing, boys' furnishings.
Shoes: Men's and boys' shoes, repairing.
Miscellaneous: Barber shop.

THIRD FLOOR: *Women's Ready-to-Wear Accessories:* Corsets, muslin underwear, petticoats, house garments, aprons, infants' and children's furnishings, infants' and children's millinery.
Women's and Misses' Ready-to-Wear: Infants' and children's dresses, coats, and furs.
Shoes: Infants' and children's shoes.
Miscellaneous: Toys.

FOURTH FLOOR: *Women's and Misses' Ready-to-Wear:* Misses'

suits, dresses, coats, and skirts. Girls' coats and dresses, misses' and girls' waists and sweaters.
Shoes: Misses' and girls' shoes and slippers.
Women's Ready-to-Wear Accessories: Misses' and girls' millinery.

FIFTH FLOOR: *Women's and Misses' Ready-to-Wear:* Women's suits, coats, skirts, waists.
Shoes: Women's shoes and slippers.

SIXTH FLOOR: *Women's and Misses' Ready-to-Wear:* Women's costumes, dresses, and furs.
Women's Ready-to-Wear Accessories: Women's millinery.

SEVENTH FLOOR: *Administrative Offices:* Display department.

EIGHTH FLOOR: *Customers' Restaurant:* Employees' cafeteria and recreation rooms.

The estimated volume of sales for a floor was the sum of the expected sales of the departments on that floor. Experience in the old store had shown the approximate percentage which rent for the whole store was of total sales. The departments which had had preferential locations were the ones whose sales volumes enabled them to bear the heaviest rent. Accessibility from the street was believed to be an important element in the success of a department.

In accordance with this view-point, rent was apportioned arbitrarily to floors on a basis of estimated sales volume and ease of access. Rent was allocated to the several floors as indicated in Table 33 on the following page.

No rental was allocated to the offices and the general service departments, with the exception of the display section, because the selling sections were expected to assume all overhead. The establishment of indirect rent, which must be prorated, would have necessitated a double operation. Such accounting was arbitrary at best and was not deemed to be of sufficient value to justify the added expense. The display section, however, as a part of the publicity department, received income from window rentals and hence was itself charged a rental.

The controller believed that the value of space to a department was dependent primarily upon its location in relation to the most frequented departments. For this reason, the rental charged to a floor occupied continuously by the same departments might

TABLE 33
ALLOCATION OF TOTAL DEPARTMENT-STORE RENTAL TO FLOORS, BY
WETHERELL DEPARTMENT STORE

Floor	Amount of Rental Allocated	Percentage of Total
Basement	\$ 65,500	18.7
First floor	58,000	16.6
Second floor	42,500	12.1
Third floor	42,000	12.0
Fourth floor	42,000	12.0
Fifth floor	42,000	12.0
Sixth floor	41,000	11.7
Seventh floor	7,000*	2.0
Eighth floor	10,000†	2.9
Total rent	\$350,000	100.0

* Display department—no rental charged to general offices.

† Restaurant—no rental charged to general service departments.

vary because the departments on the floors contiguous to it were changed. The worth of a floor to another company as estimated by a real estate broker, therefore, had little relation to the store's valuation of it. The controller was convinced that there was no thoroughly scientific basis for prorating rent to departments of a company operated as a unit. He believed, however, that the rent could be allocated in such a way as to do justice to each department.

Two methods were suggested for the determination of the rentals within a floor. The first was that the rental charged to each floor should be prorated to the departments by a system of weighted charges per square foot. For instance, departments which faced the main aisle should be rated 50, those on cross-aisles 30, any handicapped by poor light or cut off from customers' main routes by partitions or jogs in the building, twenty.

The controller, however, did not agree with this view. He thought that all departments could be assigned equally desirable locations, provided consideration was given to the relationship of departments in floor layouts. He maintained that there was an ideal location on a floor for each selling unit. For example, the waist department required a position where display was possible. A secluded position, however, was of greater value to the corset section.

The second plan, therefore, was adopted. It consisted of

charging rental on each floor on a uniform square-foot basis at the rate previously determined for the floor. The intention was that, as nearly as possible, the same ratio should obtain between the rental charged to a department and its total sales—provided their volume was satisfactory—as existed between total rent and the store's total sales. New departments or those having insufficient sales volumes were not to be subsidized by low rental charges. A department, however, was occasionally assisted by a preferred first-floor location, if the buyer convinced the management that her department could show profits in a more advantageous location large enough to cover the increased rental.

Necessary changes in the area occupied by a department were made through the building superintendent's department. An assistant measured biweekly the space used by each department which needed varying areas. Revised figures were reported to the controller's office, and adjustments were made of the rental charged to the selling departments. Rentals, consequently, fluctuated slightly from time to time as relative changes occurred in the area used by selling and service departments. Representative figures are given in Table 34.

To determine the rental for each department, the controller multiplied the number of square feet in the department by the

TABLE 34

RENTAL CHARGES AND NET SALES OF WETHERELL DEPARTMENT STORE

Floor	Space Occupied Square Feet*	Percent-age of Total Selling Space	Rent Charged	Percent-age of Total	Rent per Square Foot	Net Sales	Percent-age of Total Sales	Percent-age of Rent to Sales
Basement.....	45,000	20.2	\$65,800	18.8	\$1.46	\$4,700,000	32.7	1.4
First floor.....	29,500	13.3	58,000	16.6	1.97	2,230,769	15.6	2.6
Second floor.....	29,500	13.3	42,200	12.1	1.43	1,055,000	7.4	4.0
Third floor.....	29,500	13.3	42,000	12.0	1.42	1,354,839	9.4	3.1
Fourth floor.....	29,500	13.3	42,000	12.0	1.42	1,680,000	11.7	2.5
Fifth floor.....	29,500	13.3	42,000	12.0	1.42	1,680,000	11.7	2.5
Sixth floor.....	29,500	13.3	41,000	11.7	1.39	1,366,666	9.5	3.0
Total selling floors	222,000	100.0	\$333,000	95.2	\$1.50	\$14,067,274	98.0	2.4
Seventh floor.....			\$ 7,000	2.0				
Eighth floor.....			10,000	2.8		\$ 285,714	2.0	3.5
Total store.....			\$350,000	100.0		\$14,352,988	100.0	2.4

*Estimated.

rental per square foot for the floor on which the department was located. The controller stated that this method of rent proration, although admittedly arbitrary, was as satisfactory as any other, and had the advantages of maintaining a consistent relationship between rent and sales on each floor and of permitting the allocation of this expense item at low cost.

127. JAYNES SPECIALTY STORE¹

ALLOCATION OF RECEIVING AND MARKING EXPENSES—USE OF TIME STUDIES.

The company operated a women's specialty store. The expense for receiving and marking merchandise was allocated to departments according to the cost of the merchandise handled for each. Since expensive merchandise was charged with amounts proportionately higher than the actual extra expense involved, the company decided to charge these costs on the basis of the length of time required for receiving and marking.

In common with many other specialty stores, the Jaynes Specialty Store had allocated the expense of the receiving and marking room to the selling departments on the basis of the cost of the merchandise handled. This method tended to penalize the departments which sold expensive merchandise. For instance, the overhead charge made to the fur department for marking one fur coat which cost \$700 was exactly the same as the charge made to the hosiery department for handling hosiery valued at \$700. Time studies had shown that the actual time involved in receiving and marking the fur garment was not $1/50$ so great as that consumed in handling the hosiery. The overhead charge which small wares bore, moreover, did not cover the actual expense of preparing them for sale. It was suggested, therefore, that a more equitable method should be devised for distributing the expense of the receiving and marking division to the selling departments.

Eight distinct operations were performed in that department; namely, receiving, tallying, checking, balancing, marking tickets, putting on tickets, approving, and delivering to the selling departments. From 10 to 12 persons were employed regularly in the receiving and marking room, but during the rush seasons of the year when unusually large quantities of merchandise were

¹Fictitious name used for purpose of disguise.

TIME STUDY TO DETERMINE UNIT VALUE

Date May 2, 1923Name Mary McGee

Operation	Department	Time		Quantity
		From	To	
<u>Ticketing</u>	<u>Wash Dresses</u>	<u>12 09</u>	<u>12 13</u>	<u>7</u>
<u>"</u>	<u>Silk Waists</u>	<u>12 15</u>	<u>12 20</u>	<u>5</u>
<u>"</u>	<u>Wash Dresses</u>	<u>12 33</u>	<u>12 46</u>	<u>14</u>
<u>"</u>	<u>Low Cost Dresses</u>	<u>12 46</u>	<u>12 51</u>	<u>10</u>
<u>Checking</u>	<u>House Dresses</u>	<u>12 52</u>	<u>12 55</u>	<u>24</u>
<u>Ticketing</u>	<u>Sweaters</u>	<u>2 35</u>	<u>2 42</u>	<u>14</u>
<u>"</u>	<u>Knit Underwear</u>	<u>2 46</u>	<u>3 31</u>	<u>240</u>
<u>"</u>	<u>House Dresses</u>	<u>3 31</u>	<u>3 37</u>	<u>8</u>
<u>Checking</u>	<u>Wash Dresses</u>	<u>3 40</u>	<u>3 45</u>	<u>38</u>
<u>"</u>	<u>Women's Costumes</u>	<u>3 45</u>	<u>3 46</u>	<u>1</u>
<u>"</u>	<u>Women's Coats C.O.G.</u>	<u>3 46</u>	<u>3 47</u>	<u>1</u>
<u>"</u>	<u>Muslin Underwear</u>	<u>3 56</u>	<u>4 02</u>	<u>48</u>
<u>"</u>	<u>Wash Dresses</u>	<u>4 15</u>	<u>4 30</u>	<u>91</u>
<u>Ticketing</u>	<u>Muslin Underwear</u>	<u>4 33</u>	<u>4 39</u>	<u>16</u>
<u>Checking</u>	<u>Low Cost Dresses</u>	<u>4 43</u>	<u>4 44</u>	<u>1</u>
<u>Ticketing</u>	<u>Muslin Underwear</u>	<u>4 44</u>	<u>4 54</u>	<u>42</u>
<u>"</u>	<u>Muslin Underwear</u>	<u>4 54</u>	<u>4 56</u>	<u>12</u>

Form 31: Time-study card

handled, two or three salespersons were assigned temporarily to work in this division. One employee often performed several operations. For instance, she might both check the merchandise and attach the tickets. The tally clerks, however, were never permitted to check or mark the merchandise. The balancing clerk reconciled the blind check form, which made control of the merchandise possible, with the original invoice and the buyer's purchase order. This clerk performed only one operation. The clerk in charge of the room approved the markings.

Under the existing system the number of units completed each day was not reported. The fact that merchandise worth \$4,000, for example, had been handled in one day indicated little, since the unit value was not stated. Two dozen ladies' ready-to-wear garments might cost \$2,000, whereas a large number of small wares, such as stockings or underwear, would have to be received, if their value was to represent an equal investment. The executives of the store, therefore, had no check on the competency of the employees in the receiving and marking division.

SUMMARY SHEET FOR TICKETING	
Cotton Waists	Date _____
Time (in minutes)	Quantity
4	8
8	14
5	10
3	4
5	9
10	18
12	23
15	28
Total 62	114
Average time for day <u>0.54</u> minutes	

Form 32: Column from time-study summary sheet

It was suggested that some common unit, such as lisle-top silk hose, be chosen to measure the time required for handling all merchandise. After time studies had been made, the time needed to prepare a fur coat, for example, could be stated in terms of a definite number of pairs of such hose. A basis then could be obtained on which to make an equitable distribution of expenses. The adoption of the proposed plan would enable the executives to detect readily any faulty management in the receiving and marking room.

A stop-watch time study of the several operations was likely to be inaccurate because the employees would not be working under normal conditions. Hence, the manager of the store recommended that each worker record her own time on a special time-study card. If the purpose of the studies were explained carefully to the employees, it was believed that their full cooperation could be secured.

One disadvantage of the system was that a change in the form of the price tickets, in the method of attaching them, or in the process of handling the merchandise, necessitated a revision of

AVERAGE TIME								
Merchandise Handled	Receiv- ing	Tally- ing	Check- ing	Balanc- ing	Making Tickets	Approv- ing	Deliver- ing	Total
Women's suits								
Misses' suits								
Skirts								
Small coats								
Children's coats, etc.								

Form 33: Record of average time required by operations

the original time studies. The practice of using price tickets, however, had been established firmly, and it was thought that any decided change in the method of handling merchandise was improbable. A new time study, furthermore, could be made, when necessary, without heavy additional expense if members of the department kept their own records. It was pointed out that the suggested arrangement might increase the detail in the accounting office. The executives in charge of the plan, however, explained that under this method little additional labor was required to apportion the expenses to the selling departments.

The management decided, therefore, to adopt the plan as soon as satisfactory units had been determined. In order to develop these units each worker was required to record the time she spent on each process for three weeks on a special time-study card similar to the one presented as Form 31.

At the end of each day the information on the time-study cards was summarized. A separate summary sheet was kept for each operation. The paper was ruled in columnar form; the department and the merchandise handled appeared at the top of each column. Under the heading "Cotton Waists," for example, information was recorded as shown in Form 32.

From the summary sheet, the average time spent on each operation for the three weeks' test period was determined. The averages of the time spent in performing each operation then were added, and the total time required for every article of merchandise was determined. The results were collected on a sheet such as Form 33. Lisle-top silk hose occurred most frequently. A pair of that item was chosen as the unit. The value of 100, there-

fore, was given to this unit, and the total time spent on each type of merchandise was expressed in terms of it. The total time needed to handle lisle-top silk hose was three minutes; therefore, three was taken as the fixed denominator, and the total time used for each of the other classes of merchandise became, in turn, the numerator. A pair of silk hose, for example, required seven minutes because the price ticket was sewed on, whereas it was pinned on lisle-top silk hose. The time for the former expressed in terms of the latter, therefore, showed that it took 2.33 times as long to handle a pair of silk hose as to receive and mark a pair of lisle-top silk hose.

The above study was commenced in the summer of 1923. It was impossible, however, to determine the unit for all classes of merchandise at that time. The executive in charge expected to continue the study during the fall and winter. He stated that the employees had taken an interest in the time studies and had increased their output.

128. BENTON CAB COMPANY¹

ELASTIC DEMAND. When this taxicab company was organized in 1921, it found that the charges made for taxicab service by existing companies seemed excessive. The company concluded that a lowering of rates would appeal to new classes of customers.

DETERMINATION OF INTRODUCTORY RATES. The company planned to emphasize its ability to provide prompt and careful service. It decided to establish initial rates which would be substantially lower than the prevailing level but which would assure the company a fair margin of profit.

(1921)

In November, 1921, a group of men decided to enter the taxicab business in a large city which, they were convinced, offered a fertile field for development by a company which could provide good service. A corporation known as the Benton Cab Company was formed. The capital was subscribed by the incorporators. The company desired to secure public interest and support from the outset, and the officers had to develop a policy to attain that end.

¹Fictitious name used for purpose of disguise.

The determination of the tariff was the first problem. From an investigation which previously had been made in the city, the executives of the new company concluded that the companies then in operation were in a virtual combination to maintain rates at a high level; that their cars were for the most part nondescript; that many of their drivers were rough and discourteous; and that the service rendered was often undependable. Profits, moreover, did not appear to be commensurate with the high rates. These shortcomings and the success in other cities of companies which operated cabs of uniform model economically and profitably on a low schedule of rates, pointed the way to the new company.

Arrangements were concluded with a cab manufacturer to supply 75 cars of the model and design used by many companies in other cities. The manufacturer, who managed a group of cabs through an associated company, furnished the new company with the costs of operation of the subsidiary and of similar companies to which assistance had been rendered. In addition, the manufacturer made suggestions in regard to methods of organization, operation, and control which had produced the greatest economies.

The Benton Cab Company considered two factors in the establishment of its initial rate schedule: the rates which were charged by the competing companies, and the necessity of earning a reasonable margin of profit on the estimated cost of operation. The management was confident that the setting of rates at a level materially below that of other companies in the city would serve a double purpose. It would enable the company to secure a large share of the existing taxicab patronage and, in addition, to build up an extensive new patronage through the appeal of low rates to classes of people who previously had not used taxicabs because of the high fares. The company believed that the demand for taxicab service was elastic and, therefore, could be stimulated through a reduction in rates.

Such a reduction, however, could not wisely be made below the point which assured a reasonable margin of profit. It was necessary, therefore, to estimate accurately the probable costs of operation. For this purpose the cost figures furnished by the cab manufacturers were used as a basis. Since those costs

were incurred for cabs of the same type as those which the Benton Cab Company was to operate, allowance was made only for the estimated differences in the operating conditions, the cost of supplies, the volume of traffic transported, and the seasonal influence. It was estimated that in the city where the Benton Cab Company was located, the use of taxicabs would show a sudden decline, probably of 25%, shortly after the first of July, when many people departed for the summer. This condition would continue until the end of August, when, with equal suddenness, demand for cabs would resume its former level. In the winter months, weather conditions would increase costs of operation.

When allowance had been made for the greater cost of supplies, the smaller volume of traffic, and the wider seasonal variations, the estimated cost of operating the new cars was substantially above that incurred by companies in other cities. With a reasonable margin of profit added to the cost, the tariff was 50 cents for the first mile, 30 cents for each additional mile for one person, and 10 cents for each additional person, with no charge for the return mileage of the vacant cab. The prevailing rates of the old companies were 60 cents for the first mile and 40 cents for each additional mile for one person, and 20 cents for each extra passenger, with an added charge of 30% for return mileage. The differential between the two sets of rates was deemed a sufficient stimulus to demand, and the proposed tariff was put into effect.

The company sought to attract the public through this price inducement and through the fact that its cars were new, clean, and in good running order, and that prompt and efficient service was guaranteed. All these appeals were stressed in the preliminary newspaper advertising. In order to establish the name of the company firmly in the minds of the public, a distinctive design in contrasting colors was painted on the sides of each cab and prominently connected with the name. In this way each cab was made a moving advertisement of the company, and the attractiveness of the design and the well-kept appearance of the cars were effective in drawing favorable attention.

It also was decided to secure drivers distinctly above the average of their group. At that time the class of men desired could

not be obtained from the union. The latter, furthermore, maintained an established rate of pay which the management of the Benton Cab Company was unwilling to recognize. It was decided, therefore, to employ no union drivers. Each applicant was required to fill out an information blank which gave complete details as to his education, habits, and previous employment. Before the manager engaged an applicant, he satisfied himself fully of the man's character and ability through personal interview and through a careful investigation of the references. The new employee was on probation for two weeks, during which his personal conduct and his capacity as a driver were watched closely.

A daily wage of \$3 was paid. This was lower than the union rate of \$4, but it was guaranteed for seven days in the week and was supplemented by bonuses and prizes, through which it was expected that a man could earn \$1.50 per day extra. Thus, if a driver turned in fares which amounted to more than \$10 in a day, he was paid 20% of the excess over \$10. Each driver also received 3 cents for every trip he made with passengers. There was a weekly prize of \$1 for every man whose productive mileage was over 50% of his total. Three prizes of \$6, \$3, and \$2, respectively, were awarded weekly for the largest sums of money turned in by individuals during the week. A monthly prize of \$100 was given to the team of 10 drivers which accumulated the lowest number of demerits. Accidents, uncleanness of person or cab, intoxication, incivility, dishonesty, and complaints from customers were causes for the awarding of demerits. A monthly house organ was published in which were stressed cardinal points of conduct, such as courtesy, and in which were recorded especially praiseworthy acts of individual drivers.

Through these incentives and through careful selection of applicants, the desired class of drivers was secured. This was expected to be a cumulative advantage, since patrons were likely to use the taxicabs of this company exclusively if they were operated by careful, courteous, and honest drivers.

The success of these appeals was attested by the record of the company during the first year and a half of operation. It gained good-will and patronage rapidly. Other companies, in an attempt to meet the competition, placed better cars in service,

adopted distinctive color combinations, and reduced rates. The Benton Cab Company, however, retained its initial advantage, shown by its growing popularity. So great was the growth of demand for taxicab service that in the winter of 1922 and 1923 the company was able to give service to only one out of ten calls received. This condition led in the spring of 1923 to a policy of expansion. On the basis of funds received from the sale of new common stock, 175 new cabs were ordered, to be delivered in small lots at frequent intervals. It appeared certain that all the new cabs could be kept in operation to their full capacity.

129. CALDWELL TELEPHONE COMPANY¹

INSTALLATION COSTS IN TELEPHONE RATE LEVEL. Telephone service originally was provided by the company to subscribers on a monthly contract, without extra charge for installation or removal costs. The direct costs of such installation and removal averaged \$9 per telephone and were absorbed in the general level of rates.

UNFAIR DISCRIMINATION. If no charge for frequent changes was made, the cost of \$9 per charge added to the general rate level, was unfair to long-term users.

EXTRA CHARGE TO CUSTOMERS FOR INDIVIDUAL BENEFITS. Since each year almost 50% of subscribers requested discontinuance of service, the company decided to charge each customer for installation. The charge was fixed at only \$3.50 lest the demand for service be restricted.

It was originally the practice of the Caldwell Telephone Company to offer exchange service to its subscribers on the basis of a one-month contract term without additional charges for the establishment or discontinuance of service. Costs were incurred, however, whenever an instrument was installed or removed. Although definite data were not available with respect to the average period during which subscribers retained telephone service, the company recognized that many subscribers required service for short terms only, while other users retained service over extended periods of time. Under the old plan of operation, costs occasioned for the establishment and discontinuance of service were absorbed in the general level of rates.

¹Fictitious name used for purpose of disguise.

The Caldwell Telephone Company subsequently formulated a schedule of service connection charges, which varied in exchanges of different sizes. These charges applied to the installation of service at new locations, and were intended to cover in part the operating expenses of establishing and later discontinuing the service.

In one exchange district of about 50,000 people and 8,000 telephones, the charge was \$3.50. A local newspaper opposed the introduction of this charge on the basis that connection and disconnection were integral parts of telephone service and that the cost should be included, as previously, in the general rate level. The newspaper contended also that service connection charges would retard station development because of their deterrent effect upon prospective subscribers.

The company made a study throughout its territory to ascertain the length of time that service had been retained continuously by subscribers. This study indicated that the use of a telephone at one location ordinarily varied from $1\frac{1}{2}$ to $2\frac{1}{2}$ years, according to the size and other characteristics of the exchange. It showed, furthermore, that 4% of the subscribers had requested discontinuance of service within one month and almost 50% within one year, whereas less than 10% had retained service for more than five years. Inasmuch as new subscribers were being added daily, and others were discontinuing service or having their telephones moved from one place to another, the company could obtain an actual net increase of one telephone in continuous use, only by connecting three or four telephones. A substantial portion of the operating expense, therefore, was caused by establishing service, discontinuing it, and moving telephones, as distinguished from furnishing service at continuing stations.

The service connection expenses were classified under two main accounts for the establishment and discontinuance of service: Specific Expenses and General Expenses. Specific Expenses included all expenses which could be allocated definitely. The more important operations which caused specific expense were the following: In the commercial department, to establish service an employee negotiated with the subscriber and prepared an application blank for signature. The details of the application were entered on the office records; work orders were typed,

checked, and distributed to the various departments. The directory copy had to be checked and corrected, and the application and work orders filed. In the accounting department, similarly, the work orders had to be checked, fractional monthly charges computed, the records posted, addressograph slugs cut and filed, and the opening bill prepared. To discontinue service, practically all the preceding operations had to be repeated. In these departments, all costs of labor and material were charged directly as specific expenses.

In the traffic department, when service was established, all records, including copies of the directory and information records, were posted; the switchboard multiple was plugged and marked, the subscribers notified when the telephone was in operation, and the information board operated. To discontinue service, the same operations must be performed and, in addition, the multiple marking switchboard operated. These costs were substantial and were classified as specific expenses.

In the plant department, when service was requested at a location where the instrument and all the wiring must be installed, the cost of the materials used, together with the labor employed to place these materials in use, was charged to a plant account, which was capitalized, and did not represent expense. When service was discontinued and the telephone removed, the apparatus was salvaged and occasionally, part of the wiring was recovered. Ordinarily, however, little of the wiring could be salvaged profitably because of the high cost of removal. The capitalized value of this installation including the original labor cost of making it, less salvage value at the time of removal, was charged to expense and credited to the plant account, at an average unit cost based on experience. In addition, all costs incident to handling the work order and to removing the instrument were direct expenses.

General expenses were those which could not be allocated definitely, and included the cost of issuing directories, of maintaining spare plant to accommodate subscribers moving from one location to another, and of regrouping party line subscribers.

The analysis showed that the total specific expense incurred by the company in establishing and discontinuing service at one location varied from \$6 to \$15, and averaged \$9. No general

expenses were included, because they could not be allocated definitely. The company realized, however, that an allowance should be made for them. Prior to the establishment of the service connection charge, the total of specific and general expenses for establishing and discontinuing service at one location was absorbed in the general rate level.

From this analysis the Caldwell Telephone Company decided that it was more equitable to apportion the expenses of establishing and discontinuing service among the subscribers for whom these expenses were incurred, than to elevate the general rate level. There was a wide variation in the number of times different subscribers required service connections during a specified period and in the length of time a telephone was retained at one location. It was obvious, therefore, that under a monthly contract with no service connection charges, short-term subscribers benefited by not having to pay their proportion of the costs of station movement whereas long-term subscribers were compelled to pay higher rates.

It was recognized that theoretically the most equitable apportionment of expense could be obtained only by making the service connection charge equal to the connection expense. This was deemed inadvisable, however, because of the possible interference with the development of the business. In view of the fact, furthermore, that each additional connection had an actual or potential value to all subscribers, part of the expenses reasonably might be assessed against the general body of users.

The use of a one-year contract, with a provision for a termination charge in the event of discontinuance of service within the year, was suggested as an alternative for the connection charge. An investigation of the experiences of other telephone companies with this practice, however, showed that termination charges were difficult to administer and collect. In a neighboring state where that policy had been in effect, collection in more than 50% of the cases had been possible only at prohibitive costs; the amounts in most cases had been too small to warrant continued collection effort.

In order to apportion connection expenses as fairly as possible, and at the same time to permit an unrestricted station development, the company decided to continue the installation charge of

\$3.50. The application of a higher charge, although generally conceded to be justified by the actual expenses involved, might have restricted station development and thus impaired the value of service.

130. CALDWELL TELEPHONE COMPANY¹

DISCRIMINATORY SERVICE. With each desk telephone, the company supplied a standard cord, 5½ feet in length. Subscribers frequently requested cords from 8 to 25 feet long. The company's first practice was to grant these requests at its discretion and to make no charges for the longer cords provided. Subscribers complained of discrimination.

CHARGE FOR SPECIAL EQUIPMENT. The company decided to grant all requests but to impose a charge for the additional costs incurred.

The Caldwell Telephone Company ordinarily furnished with each telephone desk set an insulated wire cord 5½ feet long to connect the instrument with the bell box, or connecting block. Subscribers frequently requested longer cords to permit ready use of the telephone in different parts of the same room or even in another room. If the company decided that a longer cord was not necessary or that an extension instrument should be installed, the request was denied; otherwise, the longer cord was provided without extra charge. The administrative difficulties of that policy convinced the company that a different practice should be followed. Installation of long cords, at the request of subscribers who paid adequately for the costs involved, seemed to be a satisfactory policy. Its adoption, however, involved computation of the charge to be made. Different opinions were expressed as to the basis for calculation.

To furnish long cords required capital investment. In addition to the substantial costs of installing and maintaining these cords, there were the expenses of repairing telephones damaged by accidents directly traceable to the presence of the long cords. Impairment of service also had resulted from the use of damaged cords. The company, therefore, had restricted the use of long cords as much as possible. Dissatisfaction with this policy had arisen chiefly because some subscribers had been allowed

¹ Fictitious name used for purpose of disguise.

long cords, and others, who had not received them, charged the company with discrimination. In reality the facts presented to the company had indicated legitimate need in some cases and not in others. When a request was granted, a standard length of cord was furnished. Cords 8, 11, 15, and 25 feet in length were kept in stock. These lengths satisfied all ordinary requirements, and the standardization was economical.

The company decided that a charge should be made to any subscriber who desired a cord longer than the regulation 5½ feet. The charge was expected to compensate the company for the costs of the additional facility and to allocate expenses equitably to the customers for whose benefit they were incurred. The charge also should limit the use of long cords to cases of substantial utility by inducing each subscriber to judge whether or not his need for a long cord was commensurate with the expense.

In this connection, the instance was cited of the application of a charge for inside moves in another city. This charge, by directing the attention of the subscriber to the costs involved in moving a telephone from one location to another within the same premises, enabled him to decide whether or not his requirements for such a move were sufficient to justify his paying for it. As a result, only really advantageous moves were made, and the expenses were charged to those subscribers who incurred them. The net result in the city was a 60% reduction in the number of inside moves.

A reduction in the number of requests for long cords, therefore, was expected; the company could eliminate the administrative work of deciding upon the disposition of subscribers' requests for long cords and could avoid the risk of causing resentment by inconsistent treatment of applications. The expense of billing subscribers with the additional charge was not expected to be large.

Three methods of charging for the use of long telephone cords were proposed: a charge for installation, a small extra rental per month, or a combination of the two with a nominal installation charge.

The installation charge was easy to administer since it was paid only once and in advance; it provided a strong initial incen-

tive to subscribers to restrict the requests for long cords to cases of real necessity; and it protected the company against furnishing cords to be used for a short time only. If replacement of a cord became necessary as a result of abuse or accident, a second installation charge was to be imposed to cover the costs of replacement. On the other hand, a single payment in the form of an installation charge high enough adequately to compensate the company might appear unreasonable to subscribers and also might discourage legitimate short-term use. Subscribers, furthermore, might continue to use damaged cords because of the outlay necessary to secure new ones, and thereby would impair the telephone service. A question of ownership of cords might arise.

The monthly rental charge had the advantage of covering the additional expenses of maintenance and equipment. Although maintenance of long telephone cords was normally in the form of renewals rather than repairs, in many cases long cords were the direct cause of accidental damage to telephone instruments and, hence, indirectly were responsible for increased expense in instrument maintenance. A monthly rental charge served to remind the subscriber to discontinue the use of a long cord as soon as the need for it had passed, and protected the established rates for extension telephones, which ranged from 75 cents to \$1.25 per month, according to the class of service. Although, in general, charges for long cords would be at a substantially lower level than the rates for extension stations, it was probable that the 8- and 11-foot lengths would not be requested often in place of extension stations. Reasonable charges for the 15- and 25-foot lengths could be set sufficiently high to confine requests for those lengths almost entirely to cases where they would meet the subscribers' requirements more suitably than would extension stations.

The combination of the installation and monthly rental charge was designed to check the short-time use of long telephone cords, without sacrificing the protection against damage and the other advantages of the monthly rate. The installation charge was justified if a long cord was requested subsequent to the installation of the instrument, because of the additional expense incurred by the company. It seemed unnecessary to apply this charge to renewals because of the application of the monthly rental,

or to installations of cords made at the time of service establishment.

The company decided, therefore, to establish a rental charge of 10 to 50 cents per month according to the length of the cord, and in addition to apply an installation charge of \$1 when a long cord was installed after the establishment of telephone service.

131. ECKERLY MANUFACTURING COMPANY¹

INSTALMENT FINANCE COMPANY. To promote retailers' instalment sales of its electrical household appliances, the Eckerly Manufacturing Company organized the Ryegate Company, in New York State, to give financial aid to retailers by advancing funds secured by notes of the retailers' customers.

TERMS OF INSTALMENT PAYMENT. It was decided that the Ryegate Company should not require the retailers to guarantee payments on the notes, but should appoint the retailers as agents to make collections on each note.

(1917)

Early in 1917, the Eckerly Manufacturing Company, which manufactured household electrical appliances, organized the Ryegate Company to operate in New York State as an instalment finance corporation. Retailers sold the products of the Eckerly Manufacturing Company and its subsidiaries on partial payment contracts. The Ryegate Company was to discount for the retailers the notes given by customers under the contracts; the retailers thus could effect a greater number of instalment sales than their individual resources previously had allowed.

During the organization of the Ryegate Company, the type of agreement which should be made with retailers was discussed. The final decision lay between two plans: the first provided that retailers guarantee the payment of the notes discounted by the Ryegate Company, and the second omitted that requirement.

According to the first plan, the Ryegate Company was to discount for cash the retailers' instalment notes, and was to receive in return obligations from the retailers, such as trade acceptances which matured on the 15th day of the month when pay-

¹Fictitious name used for purpose of disguise.

ments were due. Collections, however, must be made by the retailer. It was provided that the Ryegate Company return each month's trade acceptance when the payment on the customer's note for that month was received from the retailer. If any instalment were not paid, the Ryegate Company could require that the retailer meet his acceptance. In this manner, the retailer virtually guaranteed payment. This procedure was followed by several established financing companies. When a retail sale was completed, the customer made an initial part payment, and gave his note for the balance to be paid at stated times. Customers' notes were to be bought by the Ryegate Company at 100% of their unpaid value; 90% cash, less a reserve for service charges, as shown below, was to be paid at the time of purchase, and the remaining 10% when all instalments had been paid to the Ryegate Company. This 10% was to be accepted by the retailer as full compensation for collecting the accounts. The total charges of the Ryegate Company for services, which included allowance for interest, were to vary with the time required for payment of the instalments as stated in Table 35.

TABLE 35
SERVICE AND INTEREST CHARGES OF RYEGATE COMPANY, ACCORDING
TO TIME FOR COMPLETE PAYMENT

Complete Payment within	Service and Interest Charges
4 months or less	4 %
5 months or less	4½
6 months or less	5
7 months or less	5½
8 months or less	6
9 months or less	6½
10 months or less	7
11 months or less	7½
12 months or less	8

After examination of this plan, the counsel of the Eckerly Manufacturing Company presented the following report:

The plan submitted is that the dealer, for example, in making the sale of the article, charge \$45 and receive from the customer \$10 in cash and a title note for the balance, payable in seven monthly instalments of \$5 each. The Ryegate Company would pay the dealer \$32.55 for this note, endorsed by the dealer and the collection amount guaranteed.

This brings up the question as to whether the assignment of the note to the Ryegate Company, with the guaranty of collection by the dealer, constitutes a sale or a loan. The weight of authority seems to be that the transaction is a loan and not a purchase. Since it is a loan, the rate of discount amounts to more than 6% and, therefore, brings it within the usury laws. With respect to banking laws, there seems to be a possibility that the state banking department could enjoin the operation of the Ryegate Company in the state of New York. We are obliged to consider the usury law from two aspects: first, civil; second, criminal. This brings up, first, the question with respect to the purchase of the conditional sale contract. The courts seem to have uniformly held that if the dealer in transferring the conditional sale contract to the corporation guarantees the payment of it, that this amounts to a loan, and if the discount is greater than 6%, it would be a usurious loan. In New York State the whole contract would be void and the purchasing corporation would lose both principal and interest.

The small loan laws in New York State entirely forbid loans in an amount less than \$300 at a rate of interest greater than 6%. The violation of the law is a misdemeanor, and the corporation and all its directors and employees are liable to criminal prosecution.

USURY. It would be very unsafe to attempt to purchase the conditional sale contract with a guaranty either by an incorporated dealer or a dealer doing business as an individual in an amount less than \$300. In New York State a loan greater than \$300 at a usurious rate of interest jeopardizes the whole contract when made to an individual, but it is no less a liability if made to a corporation. It would, therefore, follow that loans in excess of \$300 made in New York State at a greater rate than 6% to corporations are lawful and can be made with a guaranty of collection by the dealer. In New York State loans in excess of \$300 made to the individual at a rate greater than 6% are void and you may lose the whole amount of the loan.¹

The same graduated schedule of discounts from the face value of the customers' notes was used in the second plan. An additional provision was that for each month by which a customer's

¹The following Illinois case and excerpts from the New York law were referred to by the counsel:

"Dorothy v. Commonwealth Commercial Company. Decided in Illinois in 1917 (278 Ill. 629).

"By a contract for the term of one year between a commercial company and a piano company, the commercial company agreed to purchase the accounts of the piano company, some of which were instalment accounts running at least two years, and to pay therefor a large percentage of the face value of the remainder, less all deductions, including a commission of 1% per month until the accounts were paid, and provided that the commercial company need not pay any amount to the piano company while the remainder due on any account should not have been paid. The piano company guaranteed the payment of such accounts, and to reimburse the commercial company at the end of each year for a renewal of the

payments anticipated the terms expressed in the contract, $\frac{1}{2}$ of 1% of the amount of the sale was to be added to the retailer's collection commission as a premium. The Ryegate Company reserved the right to deduct $\frac{1}{2}$ of 1% for each month taken in excess of the terms in making final payment on the notes discounted. The retailer was not required to guarantee the payment of the notes but had to collect each one in full in order to secure the final 10% payment. Failure to collect in full on any sale did not affect his right to full payment from the Ryegate Company on completed collections.

Under the second plan, the retailer instead of giving trade acceptances when the Ryegate Company discounted his customer's note, was appointed an agent for collection and the final payment of 10%, as previously described, was a commission for his services. Since his relationship with the Ryegate Company would be fiduciary, he was to be covered by a surety bond.

The retailer was required to report periodically the sums collected, and to bank the funds to the account of the Ryegate Company. Failure to deposit the proceeds to the company's account would be prima facie evidence of a wilful intent to divert funds, and would establish a claim under the terms of the surety bond. If it kept detailed records of each customer's account, the Ryegate Company, by reporting the status of individual accounts, could impress the retailers with the importance of prompt collections. Other instalment finance corporations had encountered difficulties because retailers not only carried the

contract. An officer of the piano company was made the agent of the commercial company in receiving any amount paid to him or his company.

"HELD, that while the parties used language appropriate to a sale, the instrument did not evidence a sale of the accounts but a pledge thereof as security for a loan of money at usurious rates of interest, although in some instances the prepayments were made upon the instalment contracts within a year."

GENERAL CORPORATION LAW

General Provisions. Prohibition of Banking Powers. No corporation, domestic or foreign, other than a corporation formed under or subject to the banking laws of this state or of the United States except as permitted by such laws, shall by any implication or construction be deemed to possess the power of carrying on a business of discounting bills, notes, or other evidences of debt. . . .

BANKING LAW

Definitions. Section 2. The term "bank" when used in this chapter, unless a different meaning appears from the context, means any domestic corporation other than a trust company, authorized to discount and negotiate promissory notes, drafts, bills of exchange, and other evidences of debt. . . .

unmatured payments but also were accountable for all delinquencies. Those companies maintained no records of the individual customer accounts but expected the retailer to fulfil his agreements. The retailer often was untrained in effective collection practices and in his efforts to maintain his reputation with the finance company, he frequently paid the company out of funds due to other creditors. When these pressed for payment, bankruptcy resulted in occasional instances. The guaranty of the retailer then became valueless and the finance company had accounts whose status as between the retailer and customer could not be proved readily. Under the law, the retailer's records were under the control of a receiver, trustee, or assignee, and could not be disclosed to any one except under court order, unless such officer of his own volition and at his own risk was willing to disclose it.

If a retailer proved unsatisfactory as a collection agent, under the second plan, the collections could be made directly by the Ryegate Company. If this became necessary to an unusual degree in regard to any retailer, the financial service might be withdrawn and all his accounts taken over.

A disadvantage of the second plan was that the Ryegate Company alone would assume the credit risk. Since the retailers were not required to guarantee payment, they were likely to make sales to customers of unsound credit in order to obtain maximum distribution and rapid stock-turn. Aggressive collection policies on the part of retailers, however, were to be expected because the Ryegate Company would withhold 10% of the discount value of each note until the note was paid in full.

The Eckerly Manufacturing Company was informed, moreover, that in the experience of other finance corporations more than 90% of instalment obligations for home electrical appliances were paid when due. Of the remainder, about 2% were difficult or impossible of collection. This indicated that householders who bought electrical household appliances were sound credit risks.

The Eckerly Manufacturing Company decided that from a legal standpoint the second plan, which did not require retailers to guarantee collections, was sound. That plan also had other important advantages: the retailer did not risk financial embarrassment, yet had an incentive to make prompt and full collec-

tions; the Ryegate Company received the customer's note and also detailed information as to payments; funds could not be diverted; and unsatisfactory retailers could be eliminated at any time without serious difficulty. The second plan, therefore, was adopted.

132. KITTELL & COMPANY¹—AN INVESTMENT BANKING FIRM

SELECTION OF SECURITY ISSUE FOR RESALE—PURCHASE OF ESTABLISHED COMPANY'S BOND ISSUE PROVIDING CAPITAL FOR COMPLETION OF CONSTRUCTION. In 1921 this firm sold \$1,500,000 of the Wadsworth Steamship Company's bonds secured by a mortgage on nine freighters valued at over four times the amount of the issue. One of the vessels was in the process of construction and the sale of the bonds was to provide for the ship's completion. Up to that time, the steamship company had been prosperous; the directors were among the chief stockholders and had declared large dividends.

MAINTENANCE OF REPUTATION FOR QUALITY—PROTECTION OF BONDHOLDERS IN CASE OF DEFAULT OF PRINCIPAL AND INTEREST PAYMENTS. As a result of a general shipping depression, the steamship company defaulted on its principal and interest payments; the stockholders were unwilling to invest further capital in the company. Kittell & Company took up the unredeemed bonds, formed a bondholders' protective committee, and advanced interest payments to bondholders dependent upon this income. The committee received an offer for six of the ships upon which it then foreclosed, and with the proceeds of the sales satisfied the bondholders in full.

(1923)

In February, 1921, Kittell & Company, an investment banking firm, retailed \$1,500,000 of 8% 10-year bonds of the Wadsworth Steamship Company. This was the first security of the Wadsworth Steamship Company that Kittell & Company distributed. The steamship company was unable to complete the payment of \$150,000 in March, 1923, when the first of the serial maturities of principal became due. As a result, Kittell & Company had to select a method of protecting its customers.

According to an investigation previously made by Kittell & Company, the Wadsworth Steamship Company had been incorporated in Maine. In 1912 the company was organized with

¹Fictitious name used for purpose of disguise.

\$150,000 of common stock as its paid-in capital, to conduct a general inter-ocean shipping business. In that year the company began to operate with one steamer. Late in 1912 the company issued \$150,000 of first-mortgage 6% bonds which it sold at par. At that time the company sold an additional issue of \$150,000 of common stock. The company obtained another steamer in 1913, and a third in 1914, when it issued \$200,000 of common stock. From time to time, more bonds were sold under the terms of the indenture of 1912 until, in 1915, the total amount of this issue was \$870,000. In 1915 and 1916 the Wadsworth Steamship Company sold a \$500,000 issue of common stock, and secured three more ships, two in 1915 and one in 1916. Because of large earnings, the company called in and paid off all its bonds in 1916 and 1917. At the end of that time, the outstanding common stock totaled \$1,000,000. In 1917 the company also added two more ships to its fixed assets.

As a result of the World War, the company's earnings increased at an unusually rapid rate between 1916 and 1920. In May, 1920, the company, therefore, in order to capitalize its large earnings, increased the common stock outstanding to \$3,000,000 by paying a 200% stock dividend to the common stockholders.

TABLE 36

NUMBER OF SHIPS IN SERVICE, TOTAL DEAD WEIGHT IN TONS, GROSS AND NET EARNINGS OF WADSWORTH STEAMSHIP COMPANY
FROM 1913 THROUGH 1920*

Year	Number of Ships in Service	Total Dead Weight in Tons	Gross Earnings†	Net Earnings‡
1913	1	5,000	\$ 120,000	\$ 57,289
1914	2	10,100	219,481	61,677
1915	5	31,700	509,372	264,195
1916	6	41,200	1,224,655	842,986
1917	8	53,800	3,415,328	994,488
1918	8	53,800	3,720,418	2,671,481
1919	8	53,800	4,675,359	2,812,920
1920	8	53,800	4,784,647	2,127,722
Total			\$18,669,260	\$9,832,758

*This table does not include the earnings on the company's 3,100-ton dead-weight capacity steel freighter, which Kittell & Company did not include in its investigation.

†Total receipts from all sources.

‡After amounts for depreciation and before federal taxes were deducted.

The number of ships in service, the total dead weight in tons, and the earnings from the time of the incorporation of the company through 1920 had been as presented in Table 36.

The Wadsworth Steamship Company's number of ships in service increased from one in 1912 to eight in 1920, with a total dead-weight capacity of 53,800 tons. During that period the company's gross earnings from all sources were \$18,669,260, and its net earnings after allowances for depreciation had been made, but before federal taxes had been deducted, were \$9,832,758.

Dividends were paid on March 31, June 30, September 30, and December 31. The par value of the stock had been changed from \$100 to \$10 in December, 1918, and dividend payments on that basis had been commenced on December 31, 1918. From 1912 through 1920 the company had paid total cash dividends to the amount of \$3,267,500 on its common stock at the rates shown in Table 37.

TABLE 37

REGULAR, EXTRA, AND TOTAL RATES, EXPRESSED AS PERCENTAGES OF PAR VALUE OF COMMON STOCK, OF CASH DIVIDENDS PAID BY WADSWORTH STEAMSHIP COMPANY FROM 1912 THROUGH 1920

Year	Regular Dividend Rates	Extra Dividend Rates	Total Dividend Rates
1912	10.00%	.....	10.00%
1913	10	.....	10
1914	10	.....	10
1915	10	.....	10
1916	10	10.00%	20
1917	10	47.50	57.50
1918	26.75	52.50	79.25
1919	80	.....	80
1920	42.50*	.....	42.50*
Total	209.25%	110.00%	319.25%

*This figure includes 20% paid in March on \$1,000,000 of capital stock, and 7.5% paid in June, September, and December respectively on \$3,000,000 of capital stock.

The directors, who were among the chief stockholders, had received large shares of the cash dividends, which totaled \$3,267,500. The company had spent \$3,500,000 of net earnings on constructing ships. Excess profits taxes had been \$2,300,000.

The company's steamships were of the highest class, 100 AI in Lloyd's Register of Shipping. They were modern, oil-burning, steel freighters. The average capacity of these ships was approximately 8,000 dead-weight tons. That size was considered the most economical. Smaller types were expensive to operate and larger types were often difficult to fill. In its investigation, Kittell & Company excluded one steel freighter of 3,100-ton dead-weight capacity, built in 1900, which the company had bought in 1917. It was not intended to include this ship in the 1921 mortgage.

The ships were well maintained; the expenditures made for maintenance and repairs, from 1916 through 1920, were as presented in Table 38.

TABLE 38

EXPENDITURES OF THE WADSWORTH STEAMSHIP COMPANY FOR
MAINTENANCE AND REPAIRS FROM 1916 THROUGH 1920

Years	Amounts
1916	\$ 291,042
1917	142,203
1918	180,533
1919	471,168
1920	255,941
Total	\$1,340,887

From 1916 through 1920 the Wadsworth Steamship Company spent \$1,340,887 for maintenance and repairs. In conjunction with its maintenance program, the policy of the Wadsworth Steamship Company was to set aside 5% per year of the original cost of each ship for depreciation. According to shipping experts, 20 years was a conservative estimate of the period of service for the company's type of freighters. Prospect of continued large earnings, and the passage of the Merchant Marine Act of 1920 by the United States Government had stimulated the Wadsworth Steamship Company to continue its construction program. The act provided that a steamship company could deduct from excess profits taxes which it would have had to pay at the end of any current year an amount equal to one-third of the company's expenditures for construction during that year.

In 1920, when the company had begun to build its tenth ship,

it planned to furnish the funds out of earnings, but its earnings declined in the last half of that year, so that the company entered 1921 with sufficient funds to continue its shipping business and to meet all current operating expenses, but not with enough to complete the ship under construction. The Wadsworth Steamship Company, therefore, decided to issue \$1,500,000 of mortgage bonds secured by eight of its freighters in service, and by the ship under construction. This bond issue was offered to Kittell & Company.

The Wadsworth Steamship Company's balance-sheet as of December 31, 1920, was as presented below.

WADSWORTH STEAMSHIP COMPANY

Balance-Sheet December 31, 1920

ASSETS	
Cost of Steamships	\$5,079,943
Cash	31,794
Debit Items in Suspense	5,579
Merchandise	5,915
Captains' Cash Accounts—Net	18,698
Vessels' Slop Accounts	1,680
Accident Accounts (Covered by insurance)	165,106
Powler Steamship Company Stock (3,000 shares)	300,000
Powler Steamship Company Note	300,000
	<u>\$5,908,715</u>
LIABILITIES	
Notes Payable	\$ 200,000
Accounts Payable	188,979
Suspense Items—United States Shipping Board	524,853
Miscellaneous	13,878
Reserve for Taxes, withheld from 1919 to 1920 Federal Taxes in Anticipation of Allowance on Prior Years	263,813
Reserve for Depreciation	839,491
Capital Stock	3,000,000
Surplus	877,701
	<u>\$5,908,715</u>

The years of purchase and capacities of the ships which were to be used as security for the bond issue were those shown in Table 39.

The president and other officers of the Wadsworth Steamship Company were experienced and successful shipping men. They

TABLE 39

YEAR OF PURCHASE, NUMBER, AND DEAD-WEIGHT CAPACITY IN TONS
OF SHIPS TO BE MORTGAGED BY THE WADSWORTH STEAMSHIP
COMPANY THROUGH THE ISSUE OF \$1,500,000 OF BONDS

Year of Purchase	Number of Ships*	Dead-Weight Capacity in Tons
1912	1	5,000
1913	1	5,100
1914	1	7,200
1915	2	14,400
1916	1	9,500
1917	1	9,500
1920	1	9,500
1921	1	9,500
Total	9	69,700

*This company also owned a 3,100-ton dead-weight capacity steel freighter which was not to be mortgaged. The ship for whose completion the issue of bonds was to be sold also was to be mortgaged, and was listed as the 1921 purchase.

had established the company firmly; the president was personally acquainted with several important shippers at many of the principal ports. The cargoes of the larger ships consisted mainly of miscellaneous merchandise; those of the smaller ships, chiefly of coal.

Kittell & Company accepted the Wadsworth Steamship Company's offer. In February, 1921, the investment banking firm retailed the \$1,500,000 of first-mortgage 8% 10-year serial gold bonds of the Wadsworth Steamship Company. Kittell & Company expected the bondholders to look primarily to the fixed assets for their security. The estimated average value of the ships was \$100 per dead-weight ton, and the mortgage was for approximately \$21 per dead-weight ton. The bonds were callable on any interest date, March 1, or September 1, on a 30 days' notice at 105 and accrued interest. They were coupon bonds in denominations of \$1,000 and \$500, registerable either as to principal or as to principal and interest. The steamship company paid all federal income taxes which it lawfully could pay at the source up to 2%. The mortgage which secured the bonds provided that \$150,000 of principal should be retired on March 1 of each year, beginning March 1, 1923.

The mortgage agreement provided that the entire proceeds

from the sale of the bonds be used to complete the ninth mortgaged ship then in process of construction to cost about \$1,750,000; that all the ships be maintained to meet the requirements for the highest classification in Lloyd's Register of Shipping; and that any lien or charge be prevented from having precedence over the bonds by the company's prompt payment of all claims legally prior to or on a parity with the bonds. The mortgage agreement also stated that the company might sell, free of lien of the mortgage, any mortgaged vessel provided that a surveyor, approved by the bondholders, found the price to be the fair value of the vessel, and that the company deposited the proceeds with the trustee, to be applied towards the purchase or redemption of the bonds; and that while any of the bonds were outstanding, the company would maintain full marine insurance upon all the mortgaged vessels to the extent of 125% par value of the bonds outstanding, and protection and indemnity insurance in proper form to protect the bondholders' security.

Because of the excess number of government ships and the general decline in business, the depression in shipping, which had begun in 1920, continued throughout 1921. Because of low earnings, the company made only sufficient repairs to prevent default under the mortgage agreement. At the same time, the company was attempting to build up coastwise trade. Competition, however, precipitated a rate war and forced the company to carry freight below cost. The company's balance-sheet on December 31, 1921, was as presented on the following page.

Kittell & Company always took the responsibility for closely following the finances of the companies whose securities it had sold. It usually required monthly financial statements from industrial and public utility companies. On account of irregularity in time of receipts, however, it was impossible for Kittell & Company to require such reports from the Wadsworth Steamship Company; the two firms had an understanding that the investment banking firm could call for a report at any time describing the location and cargoes of the ships. Kittell & Company asked for reports frequently enough to know where the ships were. The coal strike in the spring of 1922 made it necessary for several of the small ships to lie idle.

During 1922 Kittell & Company became convinced that the

WADSWORTH STEAMSHIP COMPANY

Balance-Sheet December 31, 1921

ASSETS	
Cost of Steamships	\$6,433,165
Cash	18,179
Debit Items in Suspense	5,446
Merchandise	5,558
Captains' Cash Accounts—Net	4,563
Vessels' Slop Accounts	324
Accident Accounts (Covered by insurance)	57,509
Powler Steamship Company Stock (3,000 shares)	300,000
Powler Steamship Company Note	300,000
	<u>\$7,124,744</u>
LIABILITIES	
Notes Payable	\$ 357,950
Accounts Payable	156,431
Suspense Items—United States Shipping Board	524,853
Miscellaneous	12,378
Reserve for Taxes, withheld from 1919 and 1920 Federal Taxes in Anticipation of Allowance on Prior Years ..	365,219
Reserve for Depreciation	1,100,544
First-Mortgage Bonds	1,500,000
Capital Stock	3,000,000
Surplus	107,369
	<u>\$7,124,744</u>
Current Operating Bills on Hand January 12, 1922, Not Entered or Included in Above	\$ 73,060
Insurance Bills Applying Principally to 1922	68,769
	<u>\$ 141,829</u>

steamship company's position was becoming insecure. The financial statements for 1922 confirmed the conclusion drawn from the reports on the ships. During that year the Wadsworth Steamship Company had failed to earn its bond interest plus the amount required for the retirement of principal. Although the Wadsworth Steamship Company was concentrating its efforts on trade between the Atlantic and Pacific coasts of the United States and between Atlantic ports rather than on world trade as the company formerly had done, nevertheless, by February, 1923, it had insufficient working capital to continue operations. In order to obtain the cash to meet the maturity of \$150,000 principal of the bonds in March, 1923, the company attempted

in February to sell 8% cumulative preferred stock to the stockholders. That attempt failed because the stockholders, who had received \$3,267,500 cash dividends since 1912 on an original investment of \$1,000,000, did not wish to risk these profits in an industry which had become unprofitable. Since the assets of the company, if sold, probably would not be more than sufficient to satisfy the bondholders, the stockholders' existing equity did not warrant the risking of more capital in an attempt to save their original investment.

On March 1, 1923, the funds available were sufficient to retire only \$75,000 of the principal of the bonds and to pay the interest. Kittell & Company acquired the other \$75,000 of the bonds and held them to prevent defalcation and thus to protect the firm's reputation.

The financial position of the Wadsworth Steamship Company on May 1, 1923, was as shown in the balance-sheet on page 481.

In May, 1923, the Wadsworth Steamship Company tried to sell 8%, 10-year, second-mortgage notes to the stockholders. This attempt was unsuccessful for the same reasons that the attempt to sell preferred stock had failed.

In August, 1923, the executives of Kittell & Company formed a bondholders' protective committee. It drew up a deposit agreement, and the bondholders deposited all but 29 bonds, which represented approximately \$25,000, with the committee.

The bondholders' committee believed that the stockholders' experience in trying to raise funds indicated that the committee could not effect a reorganization through the stockholders. The bondholders, furthermore, did not wish to invest additional capital in an industry which probably would not be profitable for several years because of the general excess of shipping capacity. In addition, it was not the policy of Kittell & Company to take over and operate companies in financial difficulties. The firm looked upon its function as that of creating a wide and stable market for the securities of those companies from which it decided to purchase issues. The executives believed that the company could accomplish its purpose only by giving the interests of its customers every possible consideration.

Kittell & Company realized that it would be necessary to dispose of the mortgaged ships at a substantial loss, if the company

WADSWORTH STEAMSHIP COMPANY

Balance-Sheet May 1, 1923

ASSETS

Current Assets

Cash	\$ 36,332	
Accounts Receivable	88,816	
Insurance Claims	101,140	
Total		\$ 226,288

Other Assets

Accrued Interest, etc.	\$ 160,253	
Refund on Federal Taxes	412,032	
Deferred Charges	84,427	
Merchandise	5,499	
Powler Steamship Company Stock	300,000	
Powler Steamship Company Notes	300,000	
Interest Receivable	62,000	
Total		1,324,211

Fixed Assets

Steamships	\$6,121,190	
Less Depreciation	1,428,636	
Net		4,692,554
Total of All Assets		<u>\$6,243,053</u>

LIABILITIES

Current Liabilities

Bonds Overdue	\$ 75,000	
Notes Payable	250,180	
Accounts Payable	255,998	
Accruals, Wages, Commissions, and so on	76,706	
Total		\$ 657,884

Other Liabilities

Reserve for Federal Taxes	\$ 365,219	
Bonds	1,350,000	
Capital Stock	3,000,000	
Surplus	869,950	
Total		5,585,169
Total of All Liabilities		<u>\$6,243,053</u>

decided to sell them at that time, because of the large number of government ships on the market, and because of the depression in shipping. The executives believed, however, that these

freighters were in better condition than the government's ships. The estimated value of the Wadsworth Steamship Company's vessels at the time the company had mortgaged them was \$100 per dead-weight ton, and the mortgage had been at the rate of \$21.52 per dead-weight ton. Kittell & Company received an offer for six of the ships, aggregating 45,700 dead-weight tons' capacity. This offer, if accepted, would provide for the payment of the bondholders in full. The executives decided, therefore, to foreclose upon the six ships and sell them rather than attempt a reorganization.

Kittell & Company presented the \$75,000 of bonds which it had taken up in March, to the Wadsworth Steamship Company for payment. The steamship company refused payment. This act, under the terms of the mortgage, constituted default, and Kittell & Company started court proceedings immediately. On August 16, 1923, the bondholders' committee ordered the trustee for the bondholders to foreclose upon the six ships on the grounds of the Wadsworth Steamship Company's failure to pay \$75,000 of principal of the bonds that had become due March 1, 1923, and failure to comply with the mortgage requirements pertaining to the insurance on the vessels. The Wadsworth Steamship Company did not meet the interest payment which became due September 1, 1923.

Kittell & Company's policy was to do everything possible to protect the firm's reputation. The executives expected that the bondholders' committee eventually would secure sufficient funds for the complete payment of the bondholders' claims. The firm, therefore, offered to pay any individual who was absolutely dependent upon interest payments for a livelihood the interest due from the Wadsworth Steamship Company. Each person who received such payments was to assign to the firm a portion of his deposit certificate equivalent to the amount of interest which he received.

Under the marine law, no one could seize vessels except while they were in port, so that the bondholders' committee immediately secured a court order and took steps to acquire the ships as soon as they arrived at convenient ports. The firm carried the process through expeditiously, and the six vessels were in the custody of the bondholders' committee early in January, 1924.

In that month the bondholders received full payment. The itemized amounts which the holder of each \$1,000 bond secured were as follows:

Principal	\$1,000.00
Bond Interest Due September 1, 1923	40.00
Interest on \$1,040 from September 1, 1923, to January 16, 1924	23.40
Total	<u>\$1,063.40</u>

The holders of \$25,000 of the bonds, who had not cooperated with the bondholders' protective committee, also received full payment. Although the expense connected with the settlement was more than the original profit on the sale of the bonds, Kittell & Company made no charge to the bondholders.

The Wadsworth Steamship Company continued in business, owing over \$500,000 to banks and merchandise creditors. On the petition of a merchandise creditor to whom the company owed about \$20,000, the court appointed, on March 3, 1924, a receiver to administer the company's affairs until the liquidation or reorganization of the company.

Kittell & Company was satisfied that it had protected its customers' interests and that it had discharged its responsibility to the stockholders of the Wadsworth Steamship Company by allowing them ample time to save their equity had they so desired. The firm had preserved its reputation, and it was in a position to create a wide market for the issues which it might purchase subsequently.

133. BOOTHBY FOUNDRY COMPANY¹

SHORT-TIME USE FOR SURPLUS CASH. The Boothby Foundry Company was a constant borrower from several banks. In July, 1924, it had \$25,000 of surplus cash for which a suitable temporary use was sought. This surplus could have been used to purchase shares of the company's preferred stock, 90-day commercial paper, or tax-exempt bonds.

PARTIAL LIQUIDATION OF BANK LOANS. Temporary reduction of bank borrowings, however, although less remunerative in income, seemed likely to improve the company's relations with the banks. The surplus cash, therefore, was used in partial liquidation of bank loans.

(1924)

¹Fictitious name used for purpose of disguise.

The Boothby Foundry Company manufactured heavy iron castings and other foundry products. On June 30, 1924, the company had \$25,000 more in cash than it needed to use immediately. This surplus of \$25,000, however, would be required during October, 1924. Accounts payable of \$15,000 were outstanding; these obligations could be liquidated by returns from current accounts receivable which amounted to \$300,000. The company expected to finance raw material purchases with current income until October; the executives disapproved of purchasing raw materials in speculative quantities with surplus cash.

The Boothby Foundry Company had outstanding approximately \$400,000 of 7% preferred stock. Although these securities were not listed on any stock exchange, they were distributed widely. Recent sales of the preferred stock had been made at about 100. No bonds were outstanding, but the company owed \$50,000 on bank loans.

The vice-president examined the following plans for utilizing the \$25,000 surplus until autumn: purchase of shares of the company's preferred stock; purchase of prime 90-day commercial paper; purchase of tax-free bonds; and cancelation of bank loans to the extent of the stated surplus.

If the company purchased shares of its preferred stock, it would save \$437.50 in dividends for the quarter. On the other hand, a quick sale of the stock in October might be difficult to consummate without a reduction of price, which would cause a capital loss. If the stock were offered in amounts sufficiently small to avoid depressing the price, the desired feature of quick liquidity would be sacrificed.

On June 30, 1924, prime 90-day commercial paper was available to yield $3\frac{1}{2}\%$ to $3\frac{3}{4}\%$, or about \$234 in interest on \$25,000 for the 3-month period. This was \$203.50 less than could be obtained by the purchase of preferred stock and the consequent cancelation of dividends. The risk of shrinkage in capital value, however, would be negligible and quick liquidity would be assured.

On July 1, 1924, tax-free securities, such as federal, state, and farm loan bonds, were selling to yield about 4.70%, or approximately \$293 for the three-month period. Such bonds were readily marketable at any time. The vice-president of the Boothby Foundry Company, however, expected a decline in the

market prices of such securities by October, 1924, for the reason that increased seasonal business activity in the fall of the year might bring about liquidation of tax-free bonds to provide ready cash. Thus, in the vice-president's opinion, the company would face a possibility of capital shrinkage if it purchased tax-free bonds.

Credit lines were maintained constantly with three banks, and although the company frequently had had to request renewals of its notes on their maturity dates, it always had maintained satisfactory relations with the banks. The rate of interest paid on the outstanding bank loans was 5%, or \$312.50 for three months on \$25,000, which was slightly more than could be realized from the purchase of tax-free bonds. If the bank loans of \$25,000 were canceled, the vice-president thought that he could obtain an even greater amount of credit from the banks in October.

Interest paid on bank loans was included as an operating expense under the federal income tax law and, consequently, was being deducted currently from operating income in the calculation of net profits. If \$25,000 in bank loans were liquidated, therefore, the interest would be canceled but the taxable net profits of the company would be \$312.50 larger. After the 12% income tax was deducted, the net gain from the liquidation of bank loans would be \$275, as compared with a return of approximately \$293 if the investment were made in tax-free bonds.

The greatest return on \$25,000 during the three months could have been obtained by investing that sum in the company's preferred stock. Quick liquidation of the capital was possible if the surplus were invested in commercial paper or tax-free bonds. Cancellation of outstanding bank loans to the extent of the available surplus, however, would eliminate the risk of capital shrinkage, secure the equivalent of a reasonable interest yield, and provide a foundation on which to obtain an equal or greater amount of credit which the company expected to need in October. It seemed to be the financial policy of many other manufacturing companies, during the year 1924, to reduce as much as possible the amounts of their outstanding liabilities to commercial banks. The results usually were favorable to the credit standing of those companies, and it was possible that future bank borrowings would be facilitated. The Boothby Foundry Company, therefore, decided to pay off bank loans of \$25,000.

134. ALLIS POTTERY IMPORTERS, INC.¹

EXCLUSIVE IMPORT AGENCY. The firm was the exclusive import agency for a well-known French pottery. The firm derived important benefits because of the pottery's exclusive styles and willingness to supply new designs on request.

LIMITED FOREIGN SUPPLY. In 1923 the firm could have sold more than the capacity output of the pottery.

INVESTMENT IN FOREIGN COMPANY. The French pottery requested Allis Pottery Importers, Inc., to supply \$20,000 to be used for plant expansion. Refusal of this request might have caused termination of the exclusive agency agreement. The firm decided to advance the funds.

(1923)

The wholesale firm of Allis Pottery Importers, Inc., Philadelphia, an importer of high-grade pottery and china, was the exclusive agent in the United States for the Dijon Frères pottery, which was located near Limoges, France. In 1923 Allis Pottery Importers, Inc., oversold the capacity of the pottery. To enlarge the pottery sufficiently to meet the demand, \$20,000 capital was required for the purchase and installation of additional plant equipment. This amount was not available from local sources in France, and Dijon Frères stated that if Allis Pottery Importers, Inc., wished to continue as the exclusive agent it should furnish this amount. The financial condition of the Allis Pottery Importers, Inc., permitted the investment, but there was doubt as to whether the exclusive agency privilege warranted the extension of financial assistance to the foreign producer.

Pottery sold by Allis Pottery Importers, Inc., came from England, Japan, China, Czechoslovakia, France, Italy, and Germany. It ranged from the fine English bone china and Japanese dinnerware to unbaked and unglazed peasant pottery from Britain and Italy. The warehouse was located in Philadelphia. All wares that the firm sold were imported, except those used in hotels and restaurants. Salesmen solicited the patronage of retailers throughout the United States.

Wholesalers customarily purchased imported china from New York importers, or from branches or agents of foreign potteries. Such agents usually received commissions on their sales to distributors in the United States. They did not carry stocks. A few

¹Fictitious name used for purpose of disguise.

wholesalers, whose sales were sufficiently large, sent buyers to Europe once a year. On orders placed by such buyers, the foreign potteries, in accordance with trade custom, paid nominal commissions to their New York importing agents. The branches usually were United States corporations, controlled by foreign potteries whose products the branches purchased for resale.

Because of its volume of purchases, Allis Pottery Importers, Inc., had found it possible to purchase abroad from other potteries than that of Dijon Frères at prices such that landed costs to Allis Pottery Importers, Inc., in Philadelphia were the same as those to New York commission agents. Allis Pottery Importers, Inc., however, had an advantage in that it carried stocks which made possible immediate shipments.

The firm had established a warehouse system which enabled customers to order in broken lots, in sets, or in crate lots directly from stock. Larger orders were placed for shipment from the potteries to customers; the potteries billed the orders to Allis Pottery Importers, Inc., which forwarded the shipping documents to its custom-house broker at the port of entry. The broker cleared the merchandise and arranged for shipment to the customers, to whom Allis Pottery Importers, Inc., then sent its bills.

In the general wholesale distribution, Allis Pottery Importers, Inc., had found it necessary to set its selling prices by marking up landed costs approximately 100% in order to cover breakage and expenses and to provide for normal profits.

Wholesalers in 1923 were eager to secure exclusive rights to sell patterns of imported china. Designs were prepared by wholesalers and submitted to foreign potteries; on the basis of volume of purchases, exclusive rights were secured to distribute such patterns. Haviland china, for example, made in Limoges, had such a high reputation for quality that importers were unable to induce the makers to grant exclusive rights for new designs. Allis Pottery Importers, Inc., as an exclusive agent for Dijon Frères, secured china of exclusive design which competed with the finer grades of French china. It was possible, under the existing plan, for Allis Pottery Importers, Inc., to change patterns at will.

It was difficult to secure competitive prices from the manufacturers in different countries. In Germany, for example, potteries were divided under governmental supervision into four classes, on the basis of quality of merchandise and price levels. Although

the government did not seem to regulate the quotations to foreign buyers, domestic prices were controlled strictly, in practice, through the cartels. A similar situation seemed to exist in France although it was not defined so clearly as in Germany.

Discontinuance of the exclusive-agency agreement would force the firm to bid competitively for styles and patterns, with no advantages in price to be secured from foreign manufacturers. It also meant limitation to competitive lines, and inability to secure the exclusive use of a desirable manufacturer's name.

The agreement was terminable for cause at any time; Allis Pottery Importers, Inc., therefore, had to maintain satisfactory distribution of the entire output of the pottery. This necessitated building up a reputation for Dijon Frères' china by advertising and sales effort; cancelation of the agreement would result in the transfer of this asset to a competing wholesaler. The proposed investment appeared advantageous because it placed a moral responsibility upon the pottery to continue distribution through Allis Pottery Importers, Inc. It required also that the agency cooperate closely with the pottery. On the other hand, the investment might become the precedent for future demands; furthermore, its justification seemed problematical in view of existing industrial and financial uncertainties in Europe.

Other foreign manufacturers were requesting their exclusive agents in the United States to provide similar financial assistance. At any time additional investment might have to be made in order to continue the exclusive-agency basis. There was a possibility of fluctuation in quality from year to year, but experience had proved Dijon Frères' reliability.

Since it could distribute profitably the increased output made possible by the expansion, and since it desired to continue its relationship with Dijon Frères, the firm of Allis Pottery Importers, Inc., decided to provide the funds requested.

135. WIGTON & COMPANY¹—INVESTMENT SECURITIES

PURCHASE OF BOND ISSUE. This investment banking firm purchased \$2,000,000 of bonds from an electric light and power company at 85, with the expectation that the bonds would be sold at about 90 by the firm's own distributing organization.

¹Fictitious name used for purpose of disguise.

DETERMINATION OF RETAIL PRICE. Although an investigation showed that the bonds could be sold at 92, the firm decided to sell the bonds at 90, because sales expenses would be less, and the probable advance in market price would facilitate subsequent issues and strengthen the company's credit.¹

(1923)

In September, 1923, Wigton & Company purchased from the Harborville-Edison Company at 85, \$2,000,000 of 5% first-mortgage bonds due 1947. There were outstanding \$15,000,000 par value of bonds secured by the same mortgage, which had been offered by Wigton & Company in 1921. The offering price of the new bonds was to be determined with reference to the basis on which the bonds of this issue already outstanding, and similar bonds of other companies, were selling. Harborville-Edison Company 5s were quoted 91 bid and 93 asked. No sales were reported in September. Investigation showed that bonds comparable to the Harborville-Edison Company 5s were being offered on a basis to yield from 5.8% to 5.6%, the equivalent of prices of 90 to 92 for 5% bonds of 24 years' maturity.

The company served a population of 285,000, and had 54,197 customers to whom it sold 182,359,000 kilowatt-hours in 1922. Total interest charges were earned 2.4 times during 1922. The new issue was secured by a first mortgage on property valued in excess of the amount of the bonds. Additional bonds were issuable only for 75% of the cost of subsequently acquired property and only when earnings for the preceding year were 1.75 times total interest charges. An amount equal to $\frac{1}{2}$ of 1% of the par value of outstanding bonds was to be put in the sinking fund annually to be used to retire outstanding bonds and to reimburse the company for purchases of property.

The bonds were callable at 107.1 and interest on March 1, 1924, and thereafter on any interest date at a price which would equal a $4\frac{1}{2}\%$ yield basis.

In offering to buy the bonds at 85 from the Harborville-Edison Company, the firm assumed that the price to the public was to be about 90, which provided a gross margin of 5 points. This proposal had been accepted by the Harborville-Edison Company, and Wigton & Company prepared to offer the bonds to investors. The firm intended to sell all the bonds at retail, since it did not con-

¹See also Wittmer & Company, p. 492.

sider the amount large enough to justify the formation of a selling syndicate. At a conference of the New York, Chicago, and Boston partners, the question of the exact price at which the bonds were to be offered was discussed.

One partner was of the opinion that the bonds could be sold easily at 92 to yield 5.6%. He pointed out examples of public utility bonds selling at prices to yield less than 5.6%. He considered those bonds less attractive at that yield than the Harborville-Edison Company bonds. Most conspicuous among the examples were the Wattington Power Company refunding 5s due 1957, selling on a 5.53% basis, and the Thayerville Light and Power Company 5s due 1951, on a 5.56% basis. Neither of these bonds was secured by a first mortgage on the company's property. Total interest charges had been earned by the Wattington Power Company only 2.04 times during 1922. The Thayerville Light and Power Company had earned its charges 2.36 times, as had the Harborville-Edison Company; but the 5% bonds of the former were preceded by an issue of \$13,000,000 first-mortgage bonds. The two bonds with which this issue was compared were callable at 105, 2 points below the call price of the Harborville-Edison Company's bonds. Under the terms of the Wattington Power Company and the Thayerville Light and Power Company mortgages, additional bonds could be issued in amounts up to 75% of permanent extensions and additions to property, provided that net earnings for the preceding year had averaged 1.5 times interest charges, including those on the proposed bonds. The Harborville-Edison Company mortgage contained the same provision as to the amount of bonds which could be issued subsequently, but net earnings for the preceding year of 1.75 times the total interest charges were required.

If the bonds under consideration were sold to the public at 90, the firm's gross profit on the transaction was to be \$100,000. The sale at 92 permitted a gross profit of \$140,000, or a 40% increase. If the selling expense was 2% and the general overhead 1%, since expense of investigation on this issue was negligible, the total cost of purchasing and distributing this issue would be about 3%, which would allow a net profit of \$40,000 by the sale of the bonds at 90, and \$80,000 at 92.

This partner believed, also, that the Harborville-Edison Company's current credit would be improved if these bonds were sold

on a 5.6% rather than on a 5.8% basis. Bank loans could be secured at a lower rate when the company's long-time credit was shown to be on a favorable basis.

The other partners, however, advocated sale of the bonds at 90, the original price, because it seemed advisable, as a matter of good faith, to give the company the additional proceeds if the bonds were sold at 92, since the agreement with the Harborville-Edison Company had implied that the profit to the purchasing firm was to be 5 points. Wigton & Company, therefore, would make the same gross profit in selling the bonds at 92 as at 90, and the net profit might be smaller because of the greater difficulty of distribution.

It was contended, moreover, that the sale of the bonds at 90 was an advantage to the Harborville-Edison Company. Since the bonds were undoubtedly attractive on a 5.8% basis, it was probable that they would rise above 90 after they had been placed with investors. An appreciation in the price of the company's securities was considered of greater value in facilitating subsequent issues than the fact that the securities had been offered originally at a low yield. Although it was possible to sell the bonds at 92, in the absence of any upward trend in the bond market it did not seem probable that this price could be maintained. The partners who favored the sale of the bonds at 90 believed that the additional \$40,000 which the Harborville-Edison Company was to receive would not compensate for the injury to its long-time credit which was likely to be caused by a decline in the value of its first-mortgage bonds.

From the view-point of Wigton & Company, also, it was advantageous to sell the bonds at 90 for several reasons. The adoption of the plan would diminish the difficulty and expense of maintaining the market. Since there was no selling syndicate and the expenses of the investigation were negligible, 5 points was a liberal gross profit on the transaction. The firm's prestige would be enhanced through the good-will of customers whose bonds increased in value above the original offering price. The occasional presence on the bond list of a security offered at less than the maximum price would be encouraging to the salesmen and help them to secure new customers. Finally, the firm desired to have several bonds available for trading. If the Harborville-Edison Company bonds were offered at 90 and appreciated in

price as was expected, they could be used effectively in trades to customers at a point or two above the offering price. If they were offered at 92 and then declined, they would not be suitable for trading, since investors objected to exchanging their bonds for others which were selling below the offering price, even though these were charged to them at less than their current market value.

It was decided, therefore, to offer the bonds to the public at 90.

136. WITTMER & COMPANY¹—INVESTMENT SECURITIES

PURCHASE OF BOND ISSUE. This investment banking firm purchased a \$5,000,000 issue of bonds at 94 from an electric light and power company. The firm expected to retain a wholesaling profit of one point and to form a selling syndicate in which the participants would obtain a gross profit of three points. The retail price was to be 98.

BOND MARKET FLUCTUATION. Before formation of the selling syndicate, an unexpected rise in the bond market convinced the firm that the bonds could be retailed readily at 98½.

DETERMINATION OF RETAIL BOND PRICE. Because comparable securities were selling at even higher prices, the firm decided that this issue should be sold at 98½ instead of at 98.

SHARE IN UNEXPECTED PROFITS. On the ground that both the originating company and the issuing company should share unexpected profits, the firm decided to increase its wholesaling profit to 1¼ points and to pay the issuing company 94¼.²

(1921)

Early in February, 1921, Wittmer & Company purchased from the East Central Edison Company a \$5,000,000 issue of general mortgage 6½% bonds, due 1940. These bonds were part of an authorized issue of \$100,000,000 general mortgage bonds of which \$10,500,000 already were outstanding. The terms of the original mortgage indenture permitted the issue of bonds in varying amounts and at rates of interest to be determined at the date of each issue. The firm paid 94 for the bonds and intended to offer them to the public at 98 and interest, to yield 6.69%. A selling syndicate was to be formed, the members of which would be

¹Fictitious name used for purpose of disguise.

²See also Wigton & Company, p. 488.

allowed a gross profit of 3 points. This left 1 point as the wholesaling profit of Wittmer & Company. After the purchase agreement had been made, and just before the syndicate letter was to be sent out, unexpected strength developed in the bond market. It was evident to the partners of Wittmer & Company that the bonds could be sold easily on a 6.65% basis or at 98½.

There were several plans which the firm might adopt under these conditions: The bonds might be sold at 98, as originally intended, and the profits kept the same; they could be offered at 98½, and the selling syndicate given the extra ½% profit; Wittmer & Company might retain ½% more wholesaling profit and offer the bonds at 98½; the firm could pay the East Central Edison Company 94½ instead of 94, as originally agreed, with the 4-point margin retained; a compromise between these plans could be arranged.

The East Central Edison Company supplied all the electric power and light in one of the largest eastern cities. The bonds were secured by a mortgage on all the real and personal property then owned or afterwards acquired, subject to \$12,000,000 underlying closed mortgages. Junior to the general mortgage bonds, there were outstanding \$1,500,000 debentures and \$17,500,000 capital stock. Dividends on the latter had been paid at the rate of 8% since 1904. Earnings for 1920 were 2.2 times the annual interest charges on the general and underlying mortgage bonds.

The partners of Wittmer & Company considered it unsound policy to sell the bonds on a 6.69 basis when comparable securities were selling higher. Five per cent bonds of this same mortgage already outstanding were selling at 80 to yield 6.575%, which was equivalent to a price of 99.14 on 6½% bonds of 19 years maturity. Although the new bonds had to be offered at a higher yield, it seemed unwise to set the price as low as 98. It was admitted that a price of 98 would cause the bonds to sell faster, and would give to the syndicate members an unusually attractive bond to offer their customers, upon which they could make a satisfactory profit with little effort. If the bonds were sold on too high a basis, on the other hand, the effect on the company's credit might be unfavorable and reflect on the market judgment of Wittmer & Company. The impression would be given that the firm was not considering the interests of the East Central Edison Company. The amount involved in this instance was comparatively

small, but it might prejudice the East Central Edison Company against offering its next issue to Wittmer & Company.

It was suggested that the price paid the East Central Edison Company be kept the same, that the bonds be sold at $98\frac{1}{2}$, and a $3\frac{1}{2}$ points' profit allowed the selling syndicate. Wittmer & Company would benefit slightly through this, to the extent of $\frac{1}{2}$ point on its selling syndicate participation, but the partners did not approve of the plan. The profit of 3 points was considered ample for the distribution of bonds of this class, and no difficulty was expected in forming a syndicate on that basis. An increase in the syndicate profit might give the impression that the bonds were not so high grade as Wittmer & Company usually offered, since on bonds of this type the firm seldom allowed a profit of more than 3 points. The change in conditions, furthermore, made the distribution of the bonds easier rather than more difficult.

It was proposed also that the bonds should be sold at $98\frac{1}{2}$ and the $\frac{1}{2}$ point extra profit, which amounted to \$25,000, should be retained by Wittmer & Company. Inasmuch as the originating company had to take the loss if prices declined, and the distribution of the bonds failed, it was entitled to a share of the unexpected profits which came when prices rose. Although the regular wholesale profit included a compensation for risk, it was estimated on the assumption that such unanticipated profits should accrue to the banker. Wittmer & Company, however, had bid 94 for the bonds on the basis of a 4-point margin between the offering price and the purchasing price. This was regarded as an ample profit when the agreement was made. Under the improved market conditions neither the cost nor the difficulty of distribution was greater at $98\frac{1}{2}$ than at 98. There seemed, therefore, to be no basis for increasing the wholesale profit.

Another proposal was that the bonds should be sold at $98\frac{1}{2}$, and the East Central Edison Company be paid $94\frac{1}{2}$, thus receiving the entire extra \$25,000. The price of 94 had been offered for the bonds on the basis that the company was willing to pay approximately 7.1% for the capital, and that the investors were willing to buy the bonds on a 6.69 basis. If conditions changed so that investors thought the company's credit had improved to a 6.65 basis, then the company should be entitled to the lower rate also. If this were permitted, however, Wittmer & Company

would receive no part of the \$25,000 additional profit. It sometimes was maintained that, if bonds were sold in line with similar securities, and the obligatory company was not forced to pay an unfair price for its capital, the investment banker was entitled to the full profit on the purchase and sale of the securities, regardless of changes in market conditions. Those who maintained this theory were of the opinion that the price bid for bonds by the banker did not imply any definite margin of profit but was the result of competitive conditions in the market for capital. If this view were correct, a banker, therefore, was under no moral obligation to present unexpected profits to the companies from which he purchased securities.

The firm, however, sold the bonds at $98\frac{1}{2}$, paid the East Central Edison Company $94\frac{1}{4}$, and increased its wholesaling profit to $1\frac{1}{4}$ points.

137. FARBER BOND COMPANY¹

BOND ISSUE OFFERED BY MANUFACTURER. This investment banking firm had the opportunity to purchase a \$5,000,000 first-mortgage bond issue from a company manufacturing a nationally known line of food products.

SPECULATIVE USE OF PROCEEDS. The proceeds were to be used for the introduction of a new food product by means of extensive advertising and concentrated sales efforts.

REFUSAL TO PURCHASE. Although preliminary investigations showed a strong potential demand for the new product, the firm believed that funds for promoting such a product should be furnished by stockholders who could share in any extraordinary profits realized. The firm decided not to purchase the bonds.

(1919)

In September, 1913, the Farber Bond Company was offered the opportunity to purchase a \$5,000,000 first-mortgage bond issue from the Trawton Company, which manufactured a nationally known line of food products. Before the firm decided whether or not to accept the offer, it sent an engineer and an accountant to the plant of the Trawton Company to secure complete information about its history, financial condition, and prospects.

The Farber Bond Company was one of the leading originating

¹Fictitious name used for purpose of disguise.

and retailing investment banking firms in the United States. It had a reputation for conservatism which gave it a distinct place among firms of its type. Most of its offerings were composed of municipal bonds and first-mortgage or strong junior bonds of railroad and public utility companies. In order to diversify the list of offerings, the firm offered occasionally an especially strong industrial first-mortgage bond.

The principal products of the Trawton Company were advertised widely and were recognized in all parts of the United States and in many foreign countries. The trade-marks had substantial value although they were carried on the books at a nominal figure. The company was in excellent financial condition and was regarded generally as one of the most prosperous corporations in the country.

The report of the investigators showed that the value of the property included under the mortgage indenture exceeded \$12,000,000. There was no funded debt on any part of the property other than the proposed issue. During the preceding 5 years the company had earned an amount which equaled an average of $2\frac{1}{2}$ times the interest charges and amortization on the proposed \$5,000,000 issue. On the common stock, dividends at the rate of 8% had been paid regularly since the organization of the company in 1905. Expansion had been financed out of earnings.

The probable gross profit of the Farber Bond Company on the proposed purchase was larger than it usually made on its originations. The partners of the Farber Bond Company were convinced that the bonds would appeal to their customers and would sell quickly. The possibility of additional profitable business with the Trawton Company also was a factor.

Although the past record of earnings and the current financial condition of the company were satisfactory, the partners were not satisfied until they had examined also the purpose for which the money was to be used. The Trawton Company planned to use the proceeds of the bond issue in the purchase of equipment for the manufacture and distribution of a new food product which it proposed to introduce. Investigation showed that the company was not earning so large a profit on its standard lines as was the general impression. Competition was becoming severe, and the margin of profit was diminishing steadily. The officers of the

Trawton Company had decided, therefore, to introduce the new product, on which the profit margin would be substantially greater than that on the other products. They planned to advertise the new article on an unusually extensive scale and to concentrate sales efforts upon it. Questionnaires and personal investigations had indicated a strong potential demand for the new product. The officers were confident, therefore, that the sales efforts would prove successful and that, as a result, earnings would increase materially.

The partners of the Farber Bond Company, however, were doubtful of the advisability of buying bonds when the proceeds were to be invested in an untried scheme. If the new product proved a failure, and the margin of profit on the standard lines continued to decline, the earnings of the Trawton Company soon might be insufficient to cover the interest charges on the bonds. Although the partners were not qualified to estimate the probability of success of the new product, they believed that it was largely dependent on the advertising. If this proved effective, there was no doubt of the company's ability to meet interest charges. The bankers, however, had less confidence in the enterprise than had the officers of the company. The new product, although initially successful, might have to meet as severe competition in a few years as that encountered by the company's existing standard lines, and profits, in that event, would decline. This situation again would necessitate the introduction of a new food product, whose success would be problematical.

The partners of the Farber Bond Company decided not to purchase the issue. They were of the opinion that the money for such an enterprise should come only from stockholders who, in return for their assumption of risk, were entitled to any extraordinary profits. The Farber Bond Company originated only bond issues, and, therefore, was not in a position to supply the capital required.

138. WILBERT & COMPANY¹—INVESTMENTS

SALE OF NO-PROFIT LINE. The firm sold bonds at retail. Corporation and municipal bonds were about equal in sales volume, but the former yielded a satisfactory profit and the latter, as a group, no profit.

¹Fictitious name used for purpose of disguise.

REPUTATION FOR CONSERVATISM. Substantial extension of the firm's market for corporation bonds would take several years. Because its reputation for conservatism was important, the firm decided to continue the sale of municipal bonds.

The investment banking firm of Wilbert & Company purchased and sold municipal bonds and railroad and public utility bonds of high grade. For the convenience of its bond customers, it also made transactions on a commission basis, but these sales were insufficient in volume to yield a direct profit. No margin accounts were carried. Although Wilbert & Company was known chiefly as a municipal bond firm, over a period of years actual sales of this type of bond were no greater than its sales of corporation bonds. The partners questioned the value of distributing municipal bonds and thought of discontinuing the sale of those securities.

The average gross profit on the firm's purchase and sale of the municipal bonds was from 1 to $1\frac{1}{2}$ points. On western municipal bonds the average gross profit was about $2\frac{1}{2}$ points, but on about three-quarters of the firm's total municipal bond sales, it was less than 1 point. Buying expenses were lower than for corporation bonds, since far less investigation usually was necessary. Municipals were also somewhat less expensive to sell, because of the active demand for them among savings banks, wealthy investors, and trustees of estates. After the bonds had been sold, furthermore, it was unnecessary for the firm to follow the issue, since the financial standing of the corporations responsible was well known. Although the partners never had attempted to determine the exact cost of the firm's municipal bond sales, since it seemed to them impossible to apportion accurately the selling and general overhead expenses, they were confident that the cost was not less than 2% of that class of sales. One result of selling municipal bonds, therefore, was an apparent loss.

The small margin in municipal bonds resulted from the conditions under which they were purchased. State laws provided that municipalities should announce the sales to the public and award their bonds to the highest bidder. Since sealed bids were required, bankers did not know what their competitors were bidding. Each firm, consequently, made the highest bid it could afford, and as a result profits were reduced greatly. Often an actual loss was incurred. The small expense of investigating and

selling, together with comparative freedom from responsibility after the sales were made, were inducements for distributing municipal bonds. These advantages increased the severity of the competition. When the demand for municipals was active, retailing firms and commission brokers which ordinarily did not buy municipals entered bids for them. Frequently they had little knowledge of the price at which the bonds could be sold and, therefore, bid higher than the experienced firms were willing to bid. When the bonds proved difficult to sell, the inexperienced firms offered them at price concessions that impaired the municipal bond market for firms operated on sound principles. The periods of satisfactory conditions for municipal bond distributors, consequently, were infrequent, and even during such periods the gross profit was barely sufficient to cover expenses.

It appeared, therefore, that the capital being used for the purchase of municipal bonds could be used more satisfactorily for corporation bonds. The gross profit on the corporation bonds averaged about 5 points. It was more expensive to originate this type of bond because of the thorough investigation necessary. These bonds also required greater sales effort and bore a larger share of general overhead expense. When sold at a gross profit of 5 points, however, they yielded a satisfactory net profit. If the firm purchased nothing except corporation bonds, its gross profits should increase in proportion to the increased sales of corporation bonds.

There was also the possibility that the tax-exempt feature would be removed from municipal bonds, with a resultant decline in the demand, since they were sold principally to investors whose incomes rendered advisable the purchase of tax-exempt bonds. The supply also would decrease. Municipalities were enabled to issue bonds in large amounts and pay the interest charges on them out of revenue, only because of the fact that they could borrow at low rates. With the tax-exempt feature removed, they would be forced to compete with high-grade corporation bonds for capital on the basis of credit rating.

A serious loss of prestige, on the other hand, was probable if the sale of municipal bonds were discontinued. One of the firm's chief assets was its reputation for conservatism. In the opinion of the partners, although this had been acquired through the firm's sale of municipals, it was a vital factor in the firm's sales of

corporation bonds. Investors who ordinarily hesitated to buy the latter often purchased them when recommended on the same list with high-grade municipals. The partners believed that the discontinuance of the municipal bond sales was sure to result in a loss of customers, because most of those who demanded municipal bonds were not likely to buy corporation bonds in their stead. Since the sales resistance to corporation bonds was much greater than to municipal bonds, it would be extremely difficult to secure new customers immediately for corporation bonds, or to increase the amount of sales to those already on the firm's list. The partners, consequently, believed that the total sales of corporation bonds could not be increased appreciably for several years. If the total sales, therefore, were smaller, even though the gross profit per bond were increased, the greater expenses which had to be carried by each bond might reduce the total net profit.

The purchase and sale of municipal bonds, moreover, tended to stabilize the firm's sales. Although the demand for municipal and corporation bonds usually was synchronous, the proportionate sales of the two types of bonds varied from year to year. If only corporation bonds were sold, sales were sure to fluctuate more widely, which would indicate less profitable use of capital.

It was decided, therefore, to continue the municipal bond sales even though they showed no direct profit apart from the other activities of the firm.

139. WILLS & COMPANY¹—INVESTMENT SECURITIES

CHOICE OF TYPE OF BOND TO PURCHASE FOR RESALE. Wills & Company, an investment banking firm, distributed securities of industrial corporations only. In October, 1922, the firm was asked to purchase \$3,500,000 of 6% mortgage bonds from a building company. Although the firm was convinced of its ability to sell these bonds profitably, it decided not to purchase them because it did not wish to undertake subsequent sales of real estate bonds.

(1922)

In October, 1922, the senior partner of Wills & Company, a New York investment firm, was asked by the controller of a strong insurance company to fund a real estate loan then held by

¹Fictitious name used for purpose of disguise.

the insurance company, and to arrange an issue of mortgage bonds for sale to the public. Wills & Company originated and distributed stocks and bonds. It maintained branch offices in 30 cities in the United States for the retail distribution of its own and other issues. It also sold in a few cities through correspondents. Although customarily it had joined in syndicates organized by other firms for the flotation of steamship, railroad, municipal, and foreign government securities, it had originated only securities of industrial companies.

During the previous five years, the insurance company had loaned \$3,000,000 to the Ajax Buildings Corporation. At the expiration of this loan, the Ajax Buildings Corporation had asked for a renewal. The insurance company had found it necessary to decline the renewal, but had suggested that the corporation sell bonds on its property through an investment banking firm. The controller was of the opinion that distribution of real estate bonds should be effected through ordinary investment channels as well as through organizations especially formed for that purpose. He was confident of the Ajax Buildings Corporation's willingness to sell its bonds to Wills & Company, if that firm should wish to buy them.

Wills & Company was interested sufficiently to investigate the proposal. The Ajax Buildings Corporation owned and managed the Ajax Building in the downtown financial section of New York. The building, erected in 1904, was of high-grade construction, 16 stories in height, and was fully equipped for office use. The land had cost in excess of \$2,000,000. The land and building were assessed for the purpose of taxation at \$5,300,000. An appraisal made by three prominent authorities had exceeded the assessed valuation. The average income from rentals over the preceding seven years had been more than \$425,000.

As a result of this investigation, the senior partner of Wills & Company was convinced that an issue of \$3,500,000, 6% first-mortgage bonds sold at par would offer investors security combined with an attractive yield. The issue could be bought by Wills & Company at a price which permitted its sale at a satisfactory profit. Although the firm had made no attempt to distribute real estate bonds, it could depend upon its reputation to insure the sale of such an issue.

The firm, however, was inexperienced in the real estate field. In order to undertake such issues successfully, it was essential either that one of the partners make a careful study of all the circumstances incident to the origination and distribution of real estate bonds, and form an adequate organization to handle them, or that some one already qualified for such work be employed. While this issue of bonds probably could be brought out successfully, the company did not desire to enter the new field, unless it planned also to make similar offerings in the future. The executives deemed it preferable to utilize the capital of the company in the further purchase of industrial securities with which the members were conversant, or in the distribution of some type of security which had not been developed so thoroughly as had real estate bonds. There already were adequate organizations which were well equipped for the purchase and distribution of real estate bonds, and any serious attempt to compete with them would necessitate an unjustifiable expenditure of capital and effort. The firm decided, therefore, against offering to purchase bonds from the Ajax Buildings Corporation.

140. TUFTON & BATES¹—STOCKS AND BONDS

EXCESSIVE INVENTORY AT CLOSE OF BOND RETAILING SYNDICATE. In March, 1923, the investment banking firm of Tufton & Bates participated in a syndicate formed by an influential originating firm to retail at par an issue of an oil company's bonds. At the end of the syndicate period, which had been extended 60 days, Tufton & Bates had distributed only 30 of its 400 bonds.

PRICE REDUCTION TO MOVE INVENTORY. At the risk of antagonizing customers who had bought bonds at par, the firm decided to offer the bonds to its customers at 93 rather than to sell to brokers at a loss.

(1923)

In March, 1923, the firm of Tufton & Bates was offered a participation of \$400,000 in a selling syndicate formed to distribute a \$40,000,000 issue of Wigginson Oil Company 6% 30-year first-mortgage bonds. The bonds were offered to the syndicate at 98, and to the public at par and interest to yield 6%. It was stated generally by bankers that the bonds should have yielded at

¹Fictitious name used for purpose of disguise.

least $6\frac{1}{2}\%$ in order to be attractive to investors. Nevertheless, because of the reputation of the originating firm and its unfavorable attitude toward non-acceptance of participation, the firms which had been invited to join the syndicate had subscribed for the entire issue.

The bonds proved difficult to sell, as had been expected, and the syndicate was extended for 60 days from the original date of expiration. Almost 20% of the bonds still were unconfirmed to members when the syndicate was closed; they were distributed to the members in proportion to their unsold allotments. The partners of Tufton & Bates held a conference to decide upon the disposition of the 370 bonds which remained of the original allotment of 400.

A price of 93 was bid, for from one to five of the bonds, by various brokers after the close of the syndicate. The firm was convinced that its remaining Wigginson Oil Company bonds could be sold through these brokers within a week or 10 days. It was the practice of many firms to dispose of their unsold bonds in this way, on the theory that it was advisable to take losses immediately and release the capital for other uses. It might be necessary, however, to accept a price as low as 89 for some of the bonds in order to sell the entire block, since the price bid held for a limited number only. To carry the bonds involved the use of about \$100,000 of the firm's capital, which it desired to release as quickly as possible. The partners did not expect these securities to sell higher than 93 during the remainder of the year, in spite of the prediction of generally firm bond prices. The issue was not suitable for trading purposes.

On the other hand, if an average price of 91 were realized, immediate sale would result in a loss of 7 points per bond or \$25,900. The partners were of the opinion, moreover, that the sale of the bonds to brokers risked injury to Tufton & Bates' relationship with the originating firm, inclusion on whose syndicate list was a valuable asset. In buying to maintain a market for the Wigginson Oil Company bonds, the originating firm was likely to acquire bonds which originally had been taken up by Tufton & Bates and sold to brokers at the close of the syndicate. The fact that these bonds had not been placed with investors, but had been sold to speculative purchasers, would be

deemed a sufficient reason for excluding Tufton & Bates from subsequent desirable syndicates.

It appeared advisable, therefore, to sell the bonds to customers only, if this could be done without rendering the \$100,000 of capital unavailable for too long a period. It was suggested that the bonds be offered to a selected list of the firm's customers, at the price prevailing among brokers.

This action admittedly might cause ill will among the customers who had bought the 30 Wigginson Oil Company bonds at par. It was possible that the price might decline below 93. The partners, however, knew that the interest payments and principal of the bonds were secure. To purchasers at 93 the yield was more than $6\frac{1}{2}\%$. This course provided opportunity for original purchasers to acquire additional bonds at a lower price, and thus to gain a higher average yield. The firm did not hesitate, therefore, to recommend the bonds at that price. The loss involved was 5 points per bond, or \$18,500. This was \$7,400 less than the loss resulting from immediate sale to brokers. The \$100,000 of capital, however, would be unavailable for a longer period.

Although the partners were not sure that the bonds could be sold to brokers within a week at an average price of 91, or to customers within two months, at 93, they believed that these assumptions were approximately correct. They decided, therefore, to send out a letter offering the bonds to customers as had been suggested. In a week one-third of the bonds had been sold at an average price of 93. This rate of sale was not expected to continue, but the complete disposal of the bonds within two months seemed probable.

141. ZELLA & COMPANY¹—INVESTMENT BANKERS

SHORT INTEREST TO SUPPORT BOND SYNDICATE. This investment banking firm usually created a short interest when originating an issue. In September, 1923, a selling syndicate was being formed for a bond issue. After a comparison of the attractiveness of this issue with that of previous issues, the firm decided that the short interest should be 8%.

(1923)

¹Fictitious name used for purpose of disguise.

Zella & Company ranked among the leading investment banking firms of the United States in the origination of securities. Municipal, land bank, and foreign government bonds; first-mortgage and junior lien railroad, public utility, and industrial bonds; real estate bonds; and common and preferred stocks were included in its purchases. The main offices were in New York, Boston, Philadelphia, and Chicago; in addition there were branch offices in smaller cities. Since the firm retailed only about 20% of its originations, it had fewer branch offices than several other firms which originated a smaller amount of bonds, but retained a larger proportion for their own distribution.

It was the policy of Zella & Company, when forming a selling syndicate or a selling group, often to allot to participants bonds in excess of the amount of the issue. In general, the firms which were members of a selling syndicate assumed contractual responsibility, limited or unlimited, for the ultimate distribution of the specific issue. In a selling group, however, this responsibility was not placed upon the firms by the contract. Zella & Company's allotments of excess bonds were made for the purpose of maintaining the price of the bonds, during the life of the syndicate or selling group, by providing a demand for those bonds which came into the market. Accordingly, in September, 1923, when the firm formed a selling syndicate to distribute a \$10,000,000 issue of South Central Power Company 6% refunding and first-mortgage bonds due in 1953, the syndicate manager had to determine the amount of the "short interest" which should be created. The short interest was the amount by which the allotments exceeded the amount of the issue.

The South Central Power Company provided all the electric light and power and the steam heat for a city and its surrounding territory, which had a total population of 800,000. The physical property of the company was valued at \$62,000,000. Against this there were outstanding \$24,000,000 of first-mortgage bonds and \$22,000,000 of refunding bonds, among which was included the current issue. For the preceding 10 years, total interest charges on the funded debt, not including depreciation, had been earned almost $2\frac{1}{2}$ times and, for the 12 months ending July 31, 1923, $2\frac{3}{4}$ times. During the 10-year period, gross income had increased from \$7,500,000 to \$21,500,000, and the net income from \$3,000,000 to \$6,000,000.

The bonds were to be sold to the public at $98\frac{1}{2}$ and interest to yield over 6.1%. The syndicate profit was to be $3\frac{1}{2}$ points; firm withdrawals of 80% of participations were allowed. That is, each firm in the selling syndicate was assured of obtaining 80% of its participation in the issue; a firm with a participation of \$100,000 of bonds would be allotted \$80,000 of bonds, and would be safe in selling that amount to its customers. Additional amounts, however, could be obtained only by subscription. Zella & Company retained for its own participation \$800,000.

It was impossible to determine the proper size of the short interest except by a comparison of the new issue with preceding offerings, in regard to such factors as the character of the bond, the condition of the investment market, and the method of distribution. The syndicate manager was of the opinion that a short interest should be created in this instance, since his experience indicated that it was safe to eliminate it only when the market was extraordinarily strong, or when a bond of unusual merit was offered at a high yield. If the short interest were too large, however, it might be necessary for Zella & Company to buy the bonds at a premium, borrow them, or reduce its own allotment in order to cover the short sales.

The firm had distributed an issue of Canadian Provincial bonds a few weeks previously. No short account had been created for this issue, but the bonds had been sold quickly and a few had come into the market. Since the profit on these bonds had been so small that only $1\frac{3}{4}\%$ could be allowed to distributors, it had been necessary to use a selling group rather than a syndicate. The amount of the issue was \$9,000,000, of which Zella & Company had retained a \$1,000,000 participation. The financial statement of the province which issued the bonds appears on page 507. This was the leading coal-producing province in Canada, and stood among the first in agriculture and in the raising of live stock. Although it did not rank first among Canadian provinces in regard to credit, its bonds were in demand, which indicated that, at the price of par and interest to yield $5\frac{1}{2}\%$, they would be unusually attractive to investors. Canadian provincial bonds of equal strength had been offered by other bankers within the preceding month on a 5.4% basis and had been well received. The partners had been confident that few of these bonds would

FINANCIAL STATEMENT

Officially Reported October 31, 1923

Assessed Valuation of Land within the Province	\$650,000,000
Total Funded Debt	\$ 67,000,000
LESS: General Sinking Fund and Debt Created for	
Self-Sustaining Enterprises	23,000,000
Net Funded Debt	\$ 44,000,000

The province had contingent liabilities in the form of railway, agricultural, and university guaranties which totaled \$53,000,000; \$23,000,000 of this amount was given with respect to railways operated by the Dominion Government under the Canadian National Railways System.

Area, 200,000 square miles. Population, 1921 Census, 400,000.

be resold and had decided, therefore, that creation of a short interest was unnecessary for price maintenance. At the time of the offering, the bond market was dull, and new issues were being distributed with difficulty.

A little later, Zella & Company distributed an \$8,000,000 issue of the Shawkee Edison Company 25-year, 6½% collateral trust bonds through a selling syndicate, in which it retained a participation of about \$800,000. A profit of 4 points was allowed participants in the selling syndicate, and firm withdrawals up to 100% were permitted. The bonds were to be sold at 98½ plus interest to yield 6⅝%. These bonds were the obligation of a holding company which controlled three of the most important electrical utility companies in the United States. Besides the current issue there were \$14,000,000 of Series A bonds outstanding, secured under the same indenture. The value of the stocks of controlled companies, pledged as collateral, was \$39,000,000, or 177% of the par value of the bonds. Dividends at the current rate on the stock pledged as collateral amounted to 2 times interest charges on the bonds outstanding and to be issued. Earnings available for dividends on this stock for the year ending June 30, 1923, were almost 5 times these interest requirements on the bonds, and, for the 2½ years preceding, averaged 3.85 times requirements. The bonds were followed by 270,000 shares of no-par common stock which represented an investment of \$19,000,000. At the time of the offering the bond market was

dull, there was little financing, and prices were declining. Since Series A bonds of this issue were outstanding, it was especially important to maintain the price during the life of the syndicate. A short interest of $12\frac{1}{2}\%$ was created. As a result, the bonds were distributed without difficulty and none was available at the close of the syndicate.

The most important factor in the determination of the size of the short interest was the attractiveness of the bond to investors. In general, the more attractive a bond appeared, the smaller was the amount of the short interest created. The syndicate manager believed that the absence of a short account in the Canadian Provincial bond syndicate and the creation of a $12\frac{1}{2}\%$ short account in the Shawkee Edison Company bond syndicate had been satisfactory. Another factor which influenced the size of the short account was the proportion of firm withdrawals. With this at 80%, as in the instance of the syndicate to sell South Central Power Company bonds, the amount of bonds left for subscription was only 20%, and the possibility that the smaller distributors might become overburdened was decreased.

The method of distribution also was a factor that had to be considered. In selling groups, as in syndicates, allotments frequently were made on subscription. Sometimes, however, the distributors in selling groups were required to take only those amounts of bonds which they had sold. In such instances, therefore, no subscriptions were necessary, and the possibility of distributors being overstocked with bonds was eliminated.

A third factor was the amount of bonds on distributors' lists. During the period in which the Canadian Provincial and the Shawkee Edison Company bond issues were offered, distributors had difficulty in disposing of their bonds. Although when the Canadian Provincials were offered the demand was slightly stronger, the improvement was temporary.

The profit allowed the distributors was another influencing factor. When the margin of profit was large, and the bonds appeared attractive, the tendency of distributors was to overstock. Within limits, the size of the issue also might be a factor. An issue under \$5,000,000 could be distributed more satisfactorily than a large one, if the same number of distributors could be offered participation.

Zella & Company decided to sell the bonds of the South Central Power Company through a syndicate in which a short interest of 8% was created; since the distribution was successful, it was assumed that approximately the correct short interest had been created.

142. WALMAN & COMPANY¹—INVESTMENT BANKERS

BRANCH OFFICES. The Walman Company was formed in 1919 to engage in investment banking. In addition to branches in smaller cities, the firm planned to establish offices in New York, Philadelphia, Boston, and Chicago.

CENTRALIZED CONTROL. Each of these four offices could have been organized independently of the others to transact all phases of the business. It was decided, however, that the offices should be controlled from the New York office, because that plan assured more uniform policies and coordination, and more effective use of capital.

(1919)

Walman & Company was organized in 1919 to engage in the business of originating and retailing bonds. The originating function necessitated the maintenance of an office in New York, since it was there that new capital usually was sought. The retailing function made it desirable that offices also be located in Philadelphia, Boston, and Chicago, the principal centers of bond distribution in the United States. In addition, the company planned to establish branches in 10 other cities, including San Francisco and New Orleans. It was possible in this way to establish connections with local enterprises which frequently desired to obtain capital but preferred to transact the business with bankers near at hand. It was necessary to decide whether to centralize or decentralize control of the four important offices in New York, Boston, Philadelphia, and Chicago.

Investment banking organizations which combined the originating and retailing functions and maintained more than one office, were of two general types. In one type the offices were practically independent of one another. Frequently they were incorporated as separate units, and were connected only by a common ownership of stock. In companies of this type, the part-

¹Fictitious name used for purpose of disguise.

ners in the Boston office might own 51% of the Boston stock, the rest of which would be divided equally among the partners in the other three offices. Each office was free to determine its own policies and activities. It had its own capital which it could use as it saw fit for the purchase of bonds and for participation in syndicates. It was credited with all profits arising from its wholesale, retail, and trading operations.

In the second type, the company was organized as a single unit with headquarters in New York, where most of the officers lived. There were also officers in such cities as Boston, Philadelphia, and Chicago who were called into conferences when important decisions were to be made. The policies and activities of the entire firm were determined in this way. The Boston, Philadelphia, and Chicago offices maintained balances at local banks, but most of the firm's capital, both cash and securities, was kept in New York. Purchases of new issues, participation in buying and selling syndicates, making of loans, and all other activities of the company as a whole, although decided upon by all the officers, were directed by the New York office. All profits from wholesale transactions were credited to the general account of the company, regardless of which office originated the business. For each office, however, a separate record of sales and the profit to the firm arising therefrom was maintained.

The first type of organization was said to provide greater incentive for the development of new business. If the Boston office, for example, arranged for the purchase of an issue of bonds, it received the entire wholesale profit, or margin between the price paid for the bonds and the price to the selling syndicate, and also as much of the selling syndicate profit as its participation allowed. Regardless of how the holdings of stock determined the final distribution of profits, the head of the Boston office had an incentive to show greater profit on his capital than the other offices. The Boston office also bore the loss, if any. Under the second type of organization, the wholesale profit was credited to the general account of the company and the profit of the Boston office was limited by the quantity of bonds it could sell. Participation in selling syndicates formed by other firms could be managed more effectively if the offices were free to subscribe individually, since each office was best acquainted with the kind of securities it could sell. Under the centrally controlled type

of organization, in which the New York office participated for the whole company, each office considered that it should accept a share in the distribution, even though it was convinced that sale of the bonds would be difficult.

Under the first plan, since each office had its own list of securities, it could trade for its own account without submitting the transaction to the New York office for approval. Consequently, there would be less delay and fewer unconfirmed sales. It was believed, also, that syndicates could be formed more successfully by each office separately than by the New York office acting for the entire company. The Boston office was well acquainted with the selling capacity, financial strength, and reliability of the local distributing firms. It was, therefore, well qualified to select the members of local syndicates and to determine the amounts of the individual participations. In a few centrally controlled companies, selection of the participants was made by each office separately, but the terms of the syndicate agreement were arranged in New York. This did not take into consideration differences in investment conditions which might make different syndicate terms advisable.

On the other hand, organization as a single unit with control in New York permitted more effective use of the capital. Instead of being divided between four offices, the entire capital was available at once. Larger transactions, therefore, could be undertaken, and the company could occupy a more important position in the financial community than if the capital were divided. It was logical that capital should be managed from New York, since practically all large enterprises sought funds there. Most of the company's capital was invested in securities which were kept in New York. Each office, therefore, could sell from the firm's entire list, upon confirmation from headquarters, rather than from a narrower list of the individual office.

Organization as a centrally controlled unit enabled the company to maintain uniformly high standards more consistently than if each office acquired bonds on its own initiative, since the new issues were purchased and participation accepted only after a general conference of all the officers. A more conservative policy was induced; each executive acted as a check upon the enthusiasm of the others, since he was to be responsible for the distribution of part of the issue. This type of organization also

led to more satisfactory relations with other companies. If each office was free to accept or decline participations as it wished, the Boston office might refuse to participate in a syndicate formed by another originator, but the Chicago office might accept. This would make it difficult to arrange mutually advantageous agreements with other companies by which each helped the others to market securities.

Centralized control also facilitated sales. Bonds which proved to be difficult to sell in one office could be transferred more readily to another, or, if the company had a number of bonds of one issue which it desired to dispose of, the salesmen of all the offices could be instructed to center their efforts on those bonds.

A company organized as a centrally controlled unit, moreover, was free from the jealousy and internal friction which arose between the competing offices of the other type. It was admitted that the incentive to individual effort might not be so great, but the advantages gained through the cooperation of the offices working under a consistent and uniform policy more than offset these disadvantages.

It was decided, therefore, to adopt the centrally controlled type of organization.

143. MELBOURNE & McCAFFERY¹—SECURITIES

PARTICIPATION IN SELLING SYNDICATE. This firm of investment bankers was offered a participation of \$1,000,000 in a syndicate formed by one of the largest investment banking firms in the United States to distribute an issue of railroad notes.

AMOUNT OF PARTICIPATION—MAINTENANCE OF GOOD-WILL. Although the firm could realize larger profits by accepting the original amount of participation and disposing of unsold bonds to other syndicate members, the partners decided to request a participation of only \$500,000 in order to maintain satisfactory relations with the offering firm.

(1923)

In July, 1923, Melbourne & McCaffery was offered a participation of \$1,000,000 in a syndicate being formed to distribute a \$30,000,000 issue of Middleport & Auburn Railroad 5% notes due January 1, 1929. The firm both originated and retailed rail-

¹Fictitious name used for purpose of disguise.

road, public utility, industrial, and municipal bonds. It also occasionally brought out issues of preferred and common stocks. The investment banking firm which offered this participation was one of the largest in the United States; inclusion in its syndicate lists was a valuable asset.

Melbourne & McCaffery frequently accepted participations of this size. The Middleport & Auburn Railroad notes, however, were not suited to the requirements of the firm's customers, who, for the most part, purchased long-time securities. The bond market was dull and new issues were being absorbed with difficulty. Over half the firm's salesmen, moreover, were away on vacations. The partners desired to sell their participation in this syndicate within a few days, and they were convinced that \$500,000 of notes was the maximum amount that could be disposed of in that time.

The partners were convinced that, since \$1,000,000 of notes could not be sold, the relations between Melbourne & McCaffery and the offering firm would be improved by a request for a reduced participation. Originating firms desired that members of their selling syndicates sell the entire amounts of their participations. If a syndicate was not successful, the members were obliged to take up the unsold bonds of their participations. These bonds usually were placed on the market. This made it difficult for the originating firm to maintain the price, and, consequently, injured both the issue and the reputation of the firm. If the syndicate was successful, the other members readily took up the unsold bonds of any firm which had sold less than its participation. The latter, however, received an underwriting commission based upon the amount of participation rather than upon actual sales. It was intended to serve as a compensation for the assumption of risk. It was provided that a syndicate member should receive an extra commission on sales above its participation, and should be penalized at the same rate if sales did not equal its participation. The extra selling commission, however, usually was not so much as the underwriting commission.

A participation of \$1,000,000 would have enabled the firm to make a greater proportional profit than was possible if only half that amount were accepted. The notes were to be sold to the syndicate at 97 and to the public at par; 2% selling commission, 1% underwriting profit, and $\frac{1}{4}$ of 1% extra selling commission

were allowed. If the firm should accept a \$1,000,000 participation and sold notes amounting to \$500,000 its gross profit would be as follows:

Underwriting Profit—1% of \$1,000,000.....	\$10,000
Selling Commission—2% of \$500,000.....	10,000
	<u>\$20,000</u>
Less— $\frac{1}{4}$ of 1% on \$500,000 Participation Unsold....	1,250
Total Gross Profit	<u>\$18,750</u>

If a participation of \$500,000 were taken and notes of that amount were sold, the profit would be as follows:

Underwriting Profit—1% of \$500,000.....	\$ 5,000
Selling Commission—2% of \$500,000.....	10,000
Total Gross Profit	<u>\$15,000</u>

It was possible, therefore, to make \$3,750 more gross profit by accepting a participation of \$1,000,000 than by limiting participation to the expected sales.

If the issue were in greater demand than the partners had believed that it would be, the firm might be able to sell more than \$500,000 of notes. If three-fourths were sold, the firm's gross profit would be as follows:

Underwriting Commission—1% of \$1,000,000.....	\$10,000
Selling Commission—2% of \$750,000.....	15,000
	<u>\$25,000</u>
Less— $\frac{1}{4}$ of 1% on \$250,000 Participation Unsold..	625
Total Gross Profit.....	<u>\$24,375</u>

If participation were limited to \$500,000 and the firm actually sold \$750,000 of bonds, its gross profit would be:

Underwriting Commission—1% of \$500,000.....	\$ 5,000
Selling Commission—2% of \$750,000.....	15,000
Plus— $\frac{1}{4}$ of 1% on \$250,000.....	625
Total Gross Profit.....	<u>\$20,625</u>

It was obvious that, if the sales exceeded the firm's expectations, the acceptance of the \$500,000 participation would reduce the possible profit.

The practice of accepting a participation much greater in amount than the firm expected to sell was known as "taking a ride" on the syndicate. It was a practice which was objectionable to the syndicate management, and firms which were suspected of

indulging purposely in it were excluded from subsequent syndicates or were offered smaller participations.

Melbourne & McCaffery decided, therefore, to request a participation of \$500,000 instead of accepting the one offered.

144. WALD & JAMSON¹—INVESTMENT BANKERS

ISSUE OF EQUIPMENT TRUST CERTIFICATES. Participation in a syndicate to distribute railroad equipment trust certificates, issued under the Philadelphia plan, was offered to the investment banking firm of Wald & Jamson.

PARTICIPATION IN SYNDICATE TO MAINTAIN GOOD-WILL. Although the issue appeared unattractive, the firm decided to accept the participation because in that way it would be assured of subsequent offers from the firm which had formed the syndicate.

(1923)

In March, 1923, Wald & Jamson, an investment banking firm with offices in New York and Boston, was offered a participation of \$75,000 in a syndicate formed by Larson & Company, to sell an issue of \$4,500,000 Ludwig Railroad Company 5½% equipment trust certificates issued under the Philadelphia plan. The amount of the participation did not exceed that usually accepted by the firm, but a divergence of opinion existed among the partners as to the acceptance of the offer.

The proceeds were to be used for the following purchases:

NEW EQUIPMENT

- 20 Mountain-Type Locomotives
- 10 Heavy Mallet Locomotives
- 10 Narrow-Gage Mikado Locomotives
- 100 Narrow-Gage Stock Cars
- 2 Spreaders
- 2 Ditchers
- 1 Wrecking Crane
- 1 Wrecking Derrick
- 2 30-ton Locomotive Cranes
- 1 Pile Driver
- 1 Narrow-Gage Rotary Snow Plow

NEW EQUIPMENT IN USE

- 10 Mountain-Type Locomotives —New 1922

¹Fictitious name used for purpose of disguise.

700 Steel Gondola Cars	—New 1922
4 Locomotive Cranes	—New 1921
25 Dump Cars	—New 1921

REBUILT

800 Stock Cars	
Total cost of equipment	\$6,000,000
Total cost of narrow-gage equipment	542,000

Annually from 1924 through 1938, \$300,000 of certificates of this issue were to mature. Equipment was to be leased to the receiver at a rental equal to certificates and dividend warrants as they matured. Principal and dividends were guaranteed unconditionally by endorsement of the receiver. Dividend warrants and maturing certificates of this issue were to rank ahead of \$31,114,000 first and refunding mortgage bonds and \$10,000,000 cumulative adjustment income bonds among the receiver's obligations. Provision was made for the assumption of this obligation by any new company subsequently formed.

One partner believed that the firm should not participate in the syndicate, because the certificates were likely to be difficult to sell, and, therefore, the participation would be unprofitable. The Ludwig Railroad Company had been in the hands of a receiver since late in 1921, when it had defaulted on the interest of its first and refunding mortgage bonds. Table 40 shows that earnings under the receiver's management had been barely sufficient to meet interest charges.

TABLE 40

GROSS INCOME OF LUDWIG RAILROAD COMPANY APPLICABLE TO
INTEREST CHARGES, RENTALS, AND HIRE OF EQUIPMENT, 1922

Gross Income for 1922 Applicable to Interest Charges, Rentals, and Hire of the Equip- ment	\$5,688,458
Interest Charges	\$5,535,440
Rentals and Hire of the Equipment	525,485
Total Deductions	6,060,925
Deficit	\$ 372,467
Interest on Bonds Placed Junior to Dividend Warrants on Equipment Trust Certificates.	2,255,700
Interest Charges Remaining Senior to Divi- dend Warrants	3,279,740

Table 41 presents the funded debt of the Ludwig Railroad Company.

TABLE 41

FUNDED DEBT OF THE LUDWIG RAILROAD COMPANY, 1923

Funded Debt	Amount
Improvement Mortgage 5s 1928.....	\$ 8,335,000
First lien on 1,647 miles	
Cumulative Adjustment Income 7s 1932	10,000,000
Second lien on 161 miles, third lien on 325 miles, fourth lien on 2,058 miles.	
Interest in default since September, 1921	
Consolidated Mortgage 4s 1936.....	34,125,000
Consolidated Mortgage 4s 1936.....	6,382,000
First lien on 1,647 miles	
First and Refunding Mortgage 5s 1955.....	31,114,000
First lien on 161 miles, second lien on 325 miles, third lien on 2,058 miles.	
Interest in default since December, 1921	
First Trust Mortgage 4s 1939.....	15,190,000
First lien on 411 miles	
First Consolidated Mortgage 4s 1944.....	15,080,000
First lien on 316 miles, second lien on 417 miles.	
Also secured by the deposit of \$10,000,000 capital stock of the Cressona Light & Power Company.	
Equipment Trust 5½% Certificates, 1924-1938	
This issue	4,500,000
Total	\$124,726,000
Also	
Interest guaranteed by the Ludwig Railroad Com- pany on:	
Antioch & Western First Mortgage 4s 1940.....	4,510,000
Antioch Junction Railway First Mortgage 5s 1939.	2,000,000

Although the charges on the first and refunding mortgage bonds as well as the contingent charges on an issue of income bonds were to be placed junior to the dividend warrants on the equipment trust certificates, it was evident that the latter should return a higher yield than equipment of railroad companies with well-established credit, in order to appeal to investors. At the price fixed by the terms of the syndicate agreement, the certificates were to be sold to yield 5⅝%. Numerous firms, among them Wald & Jamson, were offering equipment trust certificates with equal or greater security at the same yield. It was maintained

that participation in a syndicate whose securities were difficult to sell should carry with it the possibility of a substantial profit. The members of this syndicate, however, were allowed a profit of only $1\frac{1}{2}\%$.

The condition of the bond market, moreover, was not favorable to the purchase of securities which might have to be sold after the close of the syndicate. General bond prices had been declining since September, 1922, and the indications were that the downward movement was to continue. If the certificates proved difficult to sell, as one partner expected, it might be necessary to offer special inducements to the salesmen during the life of the syndicate in order to dispose of these securities. If this was unsuccessful, the firm could sell them after syndicate expiration unless it decided to hold the certificates for a market recovery.

The other partners, however, believed that the decision should be based, not on the merits of the securities themselves, but on the reputation of Larson & Company, which was one of the leading originating firms in the United States. Participation in its syndicates was valuable. In January, 1923, it had formed a syndicate to sell an issue of Jackstone Manufacturing Company bonds but had not offered participation to Wald & Jamson. When the latter asked the reason for this, the originator intimated that the Wald & Jamson's refusal to accept participation in a less desirable syndicate, formed a short time previously, was responsible for the omission. These partners were convinced that the gain from participation in the profitable syndicates formed by Larson & Company was much greater than the loss from those which were not successful, and that it was important, therefore, to remain on this originator's syndicate list. Larson & Company were specialists in railroad financing and could be depended upon to bring out securities which were safe investments. Since title to the equipment remained with the trustee until the certificates were paid, the credit of the railroad company was a factor of less importance than if the issue had been of debenture or mortgage bonds. The firm decided, therefore, to subscribe for \$75,000 of the certificates.

It seemed probable that this action would insure Wald & Jamson of future opportunities to join with Larson & Company in the distribution of subsequent issues which might be intrinsically more desirable.

145. RAND PUBLIC UTILITIES COMPANY¹

TREND OF INTEREST RATES 1921-1931. In June, 1921, the company was preparing to issue \$40,000,000 of 30-year 5½% bonds. The officers believed that the upward trend of interest rates which existed prior to 1914 would continue during the decade following 1921.

REDEEMABLE BONDS. The company decided that the bonds should be redeemable only during the last five years before maturity.

(1921)

In June, 1921, the Rand Public Utilities Company decided to issue \$40,000,000 of 30-year 5½% bonds. It seemed probable at that time that the bonds could be sold to the public at 98, which represented a yield basis of 5.64%. The estimated total flotation and legal expense was four points. Before the preparation of the indenture, questions were raised as to whether or not the bonds should be made callable, and if so, whether during the whole or only part of the life of the bonds, and at what price.

The following redemption features were discussed. The issue as a whole might be redeemable at any time during the life of the issue at the option of the company, or at any time after a given lapse of time, for example, after 10 years from the date of issue. Either of these types might be callable at a fixed price or at figures on a sliding scale, with either small or large steps in price and short or long periods of time. The bonds also might be redeemed as a whole or in some large lot. The Chicago, Burlington & Quincy joint 6½s issued in 1921, for example, were redeemable as a whole or in lots of not less than \$5,000,000. Another variation was that if the issue was not redeemed as a whole, partial redemption might be made only in connection with sinking-fund operations. Of this type was the issue of the Kingdom of Netherlands' 50-year 6s, redeemable after 10 years at par as a whole, but if not redeemed, a sinking fund which operated annually beginning March, 1933, would retire ultimately the whole issue by call at par and interest.

There were, finally, bond issues which were callable only for sinking-fund purposes. The redemption price in such cases might or might not be above par.

One advantage of a provision for redemption was that when

¹Fictitious name used for purpose of disguise.

an issue was sold in a period of high interest rates, a redemption feature enabled the company to call the bonds later when interest rates had decreased and thus to substitute another issue of bonds at a lower rate of interest with a consequent saving in interest payments.

A second reason for the inclusion of such a provision was that the company could withdraw an issue that proved to have unsatisfactory provisions in the indenture. For example, bonds occasionally were issued in a time of general stress or of difficulties in the affairs of the issuing corporation. In such cases there were provisions such as restrictions on dividend payments, or burdensome conditions in regard to the mortgaging of the company's property, which retarded or prevented the expansion of the company unless the issue was removed by refunding operations.

Opposed to these advantages was the fact that in periods of high interest rates, when a decline in interest rates in a few years was probable, a callable bond was not so readily salable as a non-callable bond. Investors who realized that they had an excellent opportunity to secure high yields did not wish their securities to be called later when the proceeds had to be reinvested at lower returns. Because of this fact, of two bonds equally sound, the non-callable bond in a period of high interest rates sold at a price more favorable to the issuing company. To make a callable issue attractive to investors, therefore, the company would be compelled to place the call figure well above the issue price. Unless this were done, investors would not think of the issue as one of distant maturity, whatever the nominal maturity date might be, since they would realize the probability of redemption whenever interest rates declined appreciably.

If, as was the case with the Rand Public Utilities Company, the property was fixed and non-wasting, except as provided for by depreciation or by a sinking fund, a non-calling sinking fund was preferable for the company because it permitted the purchase of bonds in the open market at or below par. In a period of an upward trend of interest rates this was especially applicable to a bond with a low coupon rate and a distant maturity, because in that period the bond was more likely to sell at a discount than at a premium. A compulsory sinking fund then was undesirable, since it was to the company's advantage to keep

outstanding all its low-interest-bearing bonds in order to increase earnings and to avoid or lessen the need of further borrowings at higher rates.

It was the policy of the Rand Public Utilities Company not to bond its property or increase its liabilities to any greater extent than necessary. This fact in itself militated against a policy of selling bonds at a large discount merely because of the public preference for bonds sold below par. Since this preference was of importance and could not be disregarded, there were two courses open to the company if it decided to include a redemption provision in the bond indenture. One was to increase the capital amount of the indebtedness by the sale of bonds at a discount and to place the call price little if any above par. It seemed probable that if the bonds were sold below par a narrower margin between sale and redemption prices was necessary to make them attractive than if the sale price were near or above par. The other course was to issue a minimum amount of bonds with the call price at a high figure. The issue of the minimum amount, however, required a slightly higher coupon rate, and the high call price might prove costly if redemption became desirable.

In a period of low interest rates, when the cyclical and secular trends were upward, the matter of a callable feature was of less moment than in a period of high interest rates with prospects of a decline in the near future. In a period such as the former there was little likelihood that the issuing corporation could refund its bonds in the future with others of a still lower coupon rate. On the other hand, in such a period a provision for redemption could not be expected to have any adverse effect upon investors, for when they had bought bonds at a time of low interest rates and an upward trend, they were in no worse position if the bonds were called subsequently.

Prior to 1914 there had been steady upward trends of both commodity prices and interest rates. The executives of the Rand Public Utilities Company were of the opinion that there was no reason for expecting a change in these upward trends during the decade following 1921. With regard to commodity prices they reasoned that the most important influence of the war toward a reversal of the trend was in reducing the produc-

tion of gold. On the other hand, the war caused a concentration of gold in central banking reserves and thus increased the effective world supply of gold for monetary purposes. The Federal Reserve System, furthermore, tended to the same end. These factors seemed likely, other things being equal, to maintain or raise commodity prices during the next decade.

The yield on high-grade non-tax-exempt bonds in June, 1921, seemed not much higher than it would have been if the pre-war trend of yields on this class of bonds had continued, despite the fact that since 1913 a substantial income tax had been levied on incomes from bonds. The executives were convinced that, for whatever reason, the influence of the income tax was not so great as might have been expected, and that therefore the pre-war upward trend would not be reversed even in the event of a future lowering of income tax rates. A further basis for this belief was the assumption that industry must continue not merely to call for large absolute amounts of capital, but also to use capital in increasing proportions, relative to the use of labor, in the form of labor-saving devices to overcome such factors as shorter working hours or diminishing returns in the extractive industries.

Although the current long-term interest rates were declining, the company expected an upward trend to commence in about a year and did not believe that the bonds could be refunded on a favorable basis at a date much in advance of their maturity. It was decided, therefore, to issue the bonds with the provision that they be callable during only the last five years of their life.

This date of possible redemption was far enough in the future to secure to investors the advantages of a long-term non-callable bond, and to the company the advantage of optional refunding if a favorable interest rate obtained during the five years prior to the maturity of the issue.

146. FARMERS' EXCHANGE BANK¹

BUSINESS INFLATION—LIQUIDITY OF ASSETS. In November, 1919, the bank, situated in the Middle West, had 50% of its loans maturing in the following six months; commercial paper represented 30% of this amount.

¹Fictitious name used for purpose of disguise.

The bank decided to replace these loans entirely by six months' commercial paper, rather than by farmers' nine to twelve months' mixed chattel notes because although purchase of the latter offered higher returns, it might deprive other customers of credit. Thus, the bank was able to meet the sudden demand for accommodation in June, 1920.

(1919)

On November 1, 1919, the Farmers' Exchange Bank, located in a middle-western city of 150,000 inhabitants, had deposits of about \$5,000,000. The assets against which they constituted a claim were classified as follows:

Cash, Including Checks in Process of Collection.....	15%
Commercial Paper, Maturing within Six Months.....	30
Notes Secured by First Mortgages, 50% Maturing within One Year	13
Farmers' Notes Secured by Mixed Chattels, Maturing within Four Months	17
Unsecured Customers' Loans	25
Total	100%

The capital and surplus of \$175,000 was invested in the bank building and equipment, and in long-term bonds. The latter, which had been held over a period of years, had depreciated in value because of rising interest rates and could not be liquidated without a 5- to 10-point loss.

At the November meeting of the board of directors, it was deemed advisable, because 50% of the bank's loans matured during the next six months, to determine upon a general policy to govern the lending and investment operations of the cashier. There was an active demand for loans by ranchers and farmers located in the vicinity. They were using the proceeds to make payments on land purchases, to buy farm machinery and equipment, including automobiles, and to obtain general farm necessities such as live stock. Many competing banks which currently did not have funds to invest bought farmers' notes for resale, in order to make a brokerage profit. In most instances these loans were secured by chattel mortgages on herds of cattle, herds of sheep, or mixed chattels, consisting of horses, harnesses, farm implements not otherwise pledged for debt, and miscellaneous equipment.

The paper secured by beef herds usually was sold by the

bankers to organizations, commonly known as cattle loan companies, located at the terminal live stock markets. These companies specialized in loans to cattle breeders and feeders. The other loans were sold to bankers, and in a few instances to investors in the vicinity and in neighboring states. The notes purchased by the cattle loan companies yielded 6% or 7% interest. The rate depended upon the borrower's equity in the herd and the balance maintained by the negotiating banker with the cattle loan company at the terminal market. The cattle loan companies, in turn, sold these notes either with or without endorsement to eastern banks. In November, 1919, the latter, as well as private investors, were buying this paper on a 7% basis, although this was fully 1% higher than the rates which had prevailed a year before, when money had been less in demand by such borrowers, and more plentiful among bankers.

The notes secured by mixed chattels commonly were referred to by bankers as "horse paper," and bore a rate 1% higher than that on "cattle paper." At the same time, the cattle paper yielded a 1% higher rate than could be secured upon the best names offered on the market by commercial paper brokers. Commercial paper, however, was of six months' maturity as a rule, whereas the cattle and horse paper maturities were never less than nine months and in many cases were twelve months. Since these differentials in rates existed, the cashier was criticized for keeping 30% of the bank's loans in commercial paper at 6%, when an additional 2% could be secured on horse paper. A few directors deemed that the bank was in an unnecessarily liquid condition.

In summing up his opinion one of the directors spoke as follows:

The past three years have seen unprecedented earnings on the farms of states which look to this city for banking service. Interest and taxes have, in the main, been paid promptly, and the reason is not hard to find. In the three years 1914-1917 the total gross income of the farm population jumped more than 100%, reaching a figure of approximately sixteen billions in 1917, and rising to still higher levels in 1918 and 1919. Thus the gross earnings of the farms this year will probably be more than double the amount of any pre-war year. Farming seems to have moved permanently to a higher level of earning power; permanent because, since 1900, population has been increasing more rapidly than the acreage of improved land, and urban population has been increasing

more rapidly than rural. We have seen the land in Eastern Colorado we used to think waste, fit only for prairie dogs and jack rabbits, developed into a prosperous wheat-growing section through the development of dry farming methods. The products of this poorer land are needed to produce the increased amount of food required by our population. We are simply letting 2% on about half of the bank's loanable funds get away from us, and swell the profits of eastern institutions which themselves ought to be financing the industries whose commercial paper we have been purchasing.

He advocated, therefore, the acceptance of applications for the renewal of the maturing horse paper, and the purchase of new paper of the same character with the proceeds of the maturing commercial paper.

The cashier then stated his position:

Regardless of the form of the transaction, the bank, through its purchase and renewal of chattel mortgage paper, is actually financing the equipment or plant of the borrowing farmers. Obviously the indebtedness cannot be liquidated out of current production without exceptional and now quite clearly unanticipated circumstances as to crop yields and crop prices. In short, the bank is offered 2% more interest on "horse paper" than upon commercial paper, and to obtain this must take paper of longer maturity and less liquid security. Because this class of paper was a good purchase early in the year—when demands from commercial borrowers were low, and the rate on customers' loans was $5\frac{1}{2}\%$,—it did not follow that it was good policy to renew that class of loans as they matured. On the other hand, pressure should be brought to bear upon all borrowers who have given notes secured by chattel mortgages or such miscellaneous assets as horses; and the avails thereof should be put into commercial paper of the highest grade to be obtained, regardless of rate. In any event the bank should not purchase more notes of this class thereby making more loans which were essentially advances of fixed capital. The reason for this is that a large demand for accommodation is to be expected for our own customers during the months ahead, and because of the outstanding commitments to them, we should get into an even more liquid condition in anticipation of that possibility.

In spite of the opinion of a few directors, the cashier was permitted to follow the course he proposed. When a sudden demand for funds arose in June, 1920, the bank was in a position to accommodate its customers.

As the business depression became more severe, it was increasingly evident that the bank's anticipation of the financial stringency was of substantial aid in providing much needed credits.

147. SEVENTH NATIONAL BANK¹

FALSIFICATION OF BALANCE-SHEET. A branch of the bank extended a credit line of \$15,000 to a clothing manufacturer who also borrowed from a competing bank. The manufacturer prepared two statements of condition as of January 1, 1924. In order to afford a more conservative report to the trade, the statement submitted to the commercial agencies showed a lower current ratio and net worth than did the statement which was given to the banks.

WITHDRAWAL OF CREDIT. The Seventh National Bank, therefore, decided to withdraw its line of credit because the company's action did not conform to the bank's standard.

(1924)

The Ralston Clothing Company prepared two financial statements as of January 1, 1924, one for submittal to its banks only, and the other for general distribution through commercial agency reports. The statement for the banks was distinctly more favorable to the company than that for publication. When the second statement came to the attention of the officers of the Seventh National Bank, a branch of which had extended a credit line of \$15,000 to the Ralston Clothing Company, they had to decide whether or not to take cognizance of the divergencies in the statements.

In the bank statements, which had been audited carefully, the ratio of quick assets to current liabilities was 2.86, and the net worth was \$150,000. The other statement, however, showed a current ratio of only 1.86, and a net worth of \$100,000. When questioned by the officers of the Seventh National Bank, the president of the Ralston Clothing Company said that he preferred to show conservative earnings for the year, so that if profits decreased in the future, a true statement would not contrast unfavorably with those of previous years. He had adjusted the published figures by understating his inventory and by including as liabilities bills for merchandise which would not be delivered until January, 1924. In this manner, he accounted for the shrinkage of \$50,000 in net worth.

The credit line of \$15,000 had been granted to the Ralston Clothing Company when the account was opened at the branch of the Seventh National Bank in March, 1923. The company

¹Fictitious name used for purpose of disguise.

utilized the line for only two or three months of the year; it carried an average balance of approximately \$20,000 during the remainder. The company had an additional credit line of \$25,000 with another bank, which specialized in loans to the clothing industry. Although the existence of the two statements was known to this bank, it offered no criticism of the divergencies. The Ralston Clothing Company had an excellent reputation in the clothing trade.

The branch of the Seventh National Bank, in which the account had been placed, was in the exclusive retail section of the city. The main office of the bank was in the financial district. If a depositor in the latter office was shown to follow a questionable practice, the rule always had been to refuse him further credit accommodation and, frequently, to request withdrawal of his account. The practicability of adopting this policy in the branch had not been established, because similar standards were not enforced by other banks in that section. If the officers of the Seventh National Bank did not follow the practice of its competitors in the district, the branch would be at a disadvantage in its development of new accounts. In the case of the Ralston Clothing Company, the frankness with which the president had divulged the facts was in the company's favor.

The officers of the Seventh National Bank decided, however, that the policy of the president of the Ralston Clothing Company did not warrant continued confidence. The line of credit was withdrawn as tactfully as possible, and, while the bank was not committed to a definite attitude in the future, the impression was left that no more credit could be extended unless the practice of the company conformed with the bank's standards.

148. LOUISELL IMPLEMENT COMPANY¹

AGRICULTURAL DEPRESSION. The company manufactured and sold agricultural implements. Because of an agricultural depression which commenced in the latter part of 1920, the farmers who were the company's customers were unable to meet the payments on their purchases.

FINANCIAL DEFAULT. By October, 1922, the company was unable to pay its notes and bank loans.

¹Fictitious name used for purpose of disguise.

HOLDING COMPANY FORMED BY BANKS. The creditor banks decided that all the company's obligations could be met eventually. The banks, therefore, rather than force liquidation with consequent loss of principal, formed a holding company and advanced additional funds, in order that the Louisell Implement Company might continue to operate until the debts were paid.

(1922)

Between January and October, 1922, there were 11 meetings of the reorganization committee representing 12 creditor banks of the Louisell Implement Company. This committee also represented 200 rural banks which held commercial paper of the company. Efforts were made during this time to extricate the company from its precarious financial condition and to obviate the necessity of bankruptcy or of extensive reorganization. On October 1, 1922, a meeting of the bankers' committee was called to review the condition of the Louisell Implement Company and to ascertain its progress under the banks' supervision. The committee then was to determine whether to force liquidation of the company, or to attempt a reorganization.

The comparative consolidated balance-sheets of the Louisell Implement Company, as of December 31, 1920, December 31, 1921, and October 1, 1922, were available to the committee.

The Louisell Implement Company had been established for

LOUISELL IMPLEMENT COMPANY

Comparative Consolidated Balance-Sheets, as of December 31, 1920,
December 31, 1921, and October 1, 1922

ASSETS				LIABILITIES			
<i>(In Thousands of Dollars)</i>				<i>(In Thousands of Dollars)</i>			
	12/31 1920	12/31 1921	10/1 1922		12/31 1920	12/31 1921	10/1 1922
Cash	268	126	168	Accounts Receivable	111	102	122
Notes Receivable	2,384	2,438	2,556	Notes Payable	3,019	3,175	3,320
Accounts Receivable	111	102	122	Accounts Payable	127	48	41
Inventory	3,233	2,700	2,105	Accruals	184	150	..
Accrued Interest on Notes				Certificates of Deposit ..	..	77	61
Receivable	152	190	198	Commissions Certified to			
Liberty Bonds	56	4	3	Agents .....	..	9	92
Current Assets	6,204	5,560	5,152	Current Liabilities	3,330	3,459	3,514
Land and Buildings	1,322	1,352	1,360	Reserve Depreciation			
Investments	55	55	55	and Loss	653	395	395
Deferred Charges	22	29	136	Preferred Stock	513	513	513
Treasury Stock .....	..	18	19	Common Stock	762	762	762
Outside Real Estate....	71	62	68	Surplus	1,969	1,705	1,516
Subsidiary Balance .....	..	..	4	Undivided Profits	441	236	88
				Other Liabilities	6	6	6
Totals	7,674	7,076	6,794	Totals	7,674	7,076	6,794

80 years. Its products, wood and steel threshing machines, gas and steam tractors, and portable sawmills, were sold on credit terms of from two to four years; the usual practice was to require customers' notes as security. Five subsidiaries marketed the products and rendered repair service in the middle and far western states. Extensive stocks of finished products were maintained at the subsidiaries. The excellent reputation of the company and of its products had facilitated the establishment of banking connections in six important cities, and the company had been a consistent borrower. The company also had found a ready open market demand for its commercial paper. During 1919 and 1920, the Louisell Implement Company obtained unusually large bank loans which were converted into inventory, and into notes and accounts receivable.

The Louisell Implement Company's sales for 1919 were \$2,869,000 with a net profit of \$192,000. Sales declined abruptly in the latter part of 1920, and, for the year, were \$2,396,000, with a net profit of \$113,000. The company's customers, however, did not reduce their obligations. In 1920, \$3,019,000 was borrowed; this amount was a substantial increase over that of 1919. Apparently the company had an excessive inventory, since the ratio of sales to inventory for 1920 was only 0.74 times. At the end of the year, the inventory was not written down to its market value. The balance-sheet of December 31, 1920, therefore, showed an inordinate increase in the inventory and notes receivable accounts; they composed 90% of the current assets and 73% of the total assets of \$7,674,000. Accrued interest of \$152,000 on notes receivable was carried as an asset on the balance-sheet.

In May, 1921, the Wettin National Bank, which held notes of the Louisell Implement Company, did not wish to renew them. Two months later the bank asked the company to reduce the principal of its notes. The company could not comply. Thirty days later, renewal was delayed on a note which the Louisell Implement Company forwarded to the bank. The president of the Louisell Implement Company stated that failure to renew this note would cause the company embarrassment. After two meetings between one of the bank's vice-presidents and the president of the company, the note was extended.

In the interval between these conferences, the Wettin National Bank investigated the condition of the subsidiaries and concluded that the profits secured did not justify their continuance. For example, one branch had \$500,000 in inventory, and a like amount in receivables. Its sales for 1920 were \$500,000, hence this branch had a ratio of sales to investment of one-half, exclusive of other investments. The bank, therefore, suggested that operations at the subsidiaries be curtailed, and every effort made to reduce notes payable.

As shown in the balance-sheet of December 31, 1921, notes receivable were \$2,438,000 and accrued interest was \$190,000, as compared with \$2,384,000 and \$152,000 the previous year. Sales had declined from \$2,396,000 to \$1,104,000. During the year, \$765,000 had been collected on notes receivable, and an equal amount on sales for the year. Since most customers requested credit, which the company was no longer able to extend, sales efforts were curtailed. The operating loss for the year was \$87,000. Inventory was written down \$278,000. The inventory on the balance-sheet was \$3,233,000 in 1920 and \$2,700,000 in 1921. The banks doubted, however, that the inventory had been written down in proportion to the decline in farm implement prices. Inventory and receivables were 92% of current assets and 73% of the total assets of \$7,076,000. The figure for plant value rose from \$1,322,000 to \$1,352,000.

Several notable changes in liabilities had occurred during 1921; notes payable had increased from \$3,019,000 to \$3,175,000, reserve for depreciation had been reduced from \$653,000 to \$395,000, surplus had decreased from \$1,969,000 to \$1,705,000, and undivided profits had declined from \$441,000 to \$236,000. The sale of commercial paper of the subsidiary companies endorsed by the parent company had increased notes payable. Whereas in 1920, notes payable had constituted 39% of the total liabilities, in 1921, they were 45%. The surplus on the balance-sheet of December 31, 1920, had been 25.6% of the total liabilities, and during 1921 had declined only 1½% to 24.1% of the total liabilities. In 1920 the current ratio had been 1.9; in 1921 it had decreased to 1.6.

When the 1921 balance-sheet was furnished, the banks called the first meeting to analyze the situation. Twelve depository

banks were involved, with loans ranging from \$95,000 to \$575,000 each. In addition, there were about 200 small country banks, each of which owned from \$2,500 to \$10,000 of the Louisell Implement Company's paper sold by note brokers. The company stated that it could not pay the notes; it had tried to collect receivables but the farmers, although they signified their willingness to pay eventually, would be unable to do so for three or four years. Because of the lower replacement prices, many customers would have returned implements that they already had purchased, if the Louisell Implement Company had attempted to make immediate collections on notes receivable. The farmers, furthermore, would refuse to meet their obligations if repair parts were not constantly available; hence, although sales had not increased, the company deemed it unwise to effect production economies by shutting down the plant.

A vice-president of one of the depository banks, after attending a meeting on March 18, 1922, wrote to the Wettin National Bank:

To sum up the situation, it looks to me, based on what knowledge I have of conditions, that the management of the Louisell Implement Company is honest but somewhat inefficient; the business has gone to seed to a considerable extent, and the company, while solvent, is in for a long period in which its inventories must be liquidated by a substantial amount, its business contracted and put on a more efficient operating basis, and eventually, long-time capital put in either in the form of bonds or preferred stock.

On April 3, 1922, the banks which held the Louisell Implement Company's notes decided to renew them at or before maturity at 7%, and to require payment in full by December 1, 1922. In order to permit manufacture of raw and semi-processed materials into finished products to be sent to subsidiaries for the 1922 season, the banks agreed also to lend the company the necessary \$125,000 secured by \$200,000 of customers' notes. Each bank which had granted a credit line to the Louisell Implement Company subscribed to the new loan an amount equal to $2\frac{1}{2}\%$ of the credit line, but not to exceed 5% of the advances actually made by the bank if those advances were less than the full line. Because the company's operations began so late in the year, however, sales were lost to competitors. By October 1, 1922, the total sales for the company were only \$808,000.

The balance-sheet of October 1, 1922, showed that notes receivable had increased slightly over 1921, and amounted to \$2,556,000. This, with an inventory of \$2,105,000, constituted 90% of the current assets and 69% of the total assets. Accrued interest amounted to \$198,000. Plant and real estate remained the same. Surplus, in which no further reduction had been made, on October 1, constituted 22% of the total liabilities. The amounts of stock outstanding, \$513,000 preferred and \$762,000 common, had remained unchanged since the company's incorporation. The current ratio had declined during 1922 from 1.6 to 1.5. It was improbable that the company could pay more than the \$125,000 loan that had been granted in April. Default would result on December 1, if a plan were not evolved by the banks to reorganize the company's finances.

Accordingly, the bankers' committee met on October 1 to decide whether to liquidate the assets of the Louisell Implement Company or to attempt reorganization. Because of the peculiar condition of the company's notes receivable, it was estimated that if the assets were liquidated the banks would not recover more than 20% of their loans. Reorganization would necessitate elimination of the incapable management and installation of new officers who could manage the company effectively in financially trying periods. There were minor executives who probably were competent to fill the important administrative positions. Working capital of \$625,000 was required.

During the preliminary bank negotiations, four of the twelve banks desired liquidation of the Louisell Implement Company as a means of releasing a portion of their capital, which had been loaned to the company for more than two years. Since conditions in the farm implement industry, furthermore, did not appear conducive to a prompt or substantial recovery of sales, these four banks believed that further financial aid would be useless. They also were opposed to providing additional funds if a reorganization were effected.

The other banks, however, advocated a friendly reorganization, stating that since they had been lenient for over a year, that policy should be continued and an effort made to reorganize the company. They were confident that it would be possible eventually to realize 100% on the loans; hence a sacrifice of 80%

of principal through liquidation was not justifiable. These banks further contended that the Louisell Implement Company had a valuable asset in the good-will created by the satisfactory performance of its products for 80 years. In the event of liquidation this was likely to yield little return.

The eight banks which recommended reorganization advised the formation of a holding company to take over the real estate of the Louisell Implement Company and to assume 50% of its bank obligations. The holding company would authorize a \$2,000,000 issue of bonds to be given to the banks in payment of approximately 60% of their loans. This would leave the operating company with assets of \$5,100,000 to pay the remaining 40% of the debts to the banks. The majority banks also advised that the sales branches be discontinued, because of their remoteness, and that the company's efforts be concentrated in the central states. They also recommended that portable saw-mills, several models of tractors, and wooden threshing machines be eliminated from the company's line. The fact that it was necessary to season for two years the lumber used in the manufacture of the last product, caused working capital to be tied up in a three years' supply of lumber. In the production of steel threshers, on the other hand, a 60-day supply of material was adequate. The creation of the holding company and the segregation of assets would make it possible to secure merchandise credit and readily to furnish preferred security for the new advances which might be made by banks for the company's seasonal operations.

Under the majority banks' plan the operating company was to pay the taxes, and all interest on indebtedness. Earnings and funds received from the collection of bills receivable outstanding, above the amount which it was advisable to retain for the needs of the operating company, were to be paid as rent to the holding company. The holding company was to apply the proceeds to the payment of outstanding indebtedness of the Louisell Implement Company.

Because the first plan for reorganization did not receive unanimous support from the banks, the bankers' committee decided that the holding company should assume all the banks' notes instead of the 60% originally suggested. The amount of bonds

issued remained at \$2,000,000 and all other recommendations in the plan were accepted. The \$625,000 required for working capital was made as a loan to the operating company, secured by the latter's assets, which included \$2,566,000 in bills receivable. Voting control was vested in 100 shares of class A common stock held by the bankers' committee as board of directors of the holding company. The holding company retained the right to mature outstanding indebtedness, to terminate the agreement, and to liquidate the company's assets, whenever the plan might appear no longer advantageous. After all the debts to banks were paid, the 100 shares of class A common stock were to be returned to the stockholders of the operating company.

After the reorganization, but before the issue of the \$2,000,000 of bonds and the granting of the \$625,000 bank loan, the consolidated balance-sheets of the holding and operating companies were as follows:

LOUISELL IMPLEMENT COMPANY

Balance-Sheets of the Holding and Operating Companies

October 31, 1922

(In Thousands of Dollars)

HOLDING COMPANY			
ASSETS		LIABILITIES	
Land and Buildings.....	1,360	Notes Payable	3,320
Preferred Stock, Operating Company	513	Preferred Stock	513
Common Stock, Operating Company	4,728	Common Stock, A	1
(Book value)		Common Stock, B	76
		Capital and Surplus	2,691
	6,601		6,601
OPERATING COMPANY			
ASSETS		LIABILITIES	
Cash	168	Accounts Payable	41
Notes Receivable	2,556	Certificates of Deposit	61
Accounts	122	Commissions Certified to Agents..	92
Inventory	2,105		
Interest on Notes Receivable	198		
Liberty Bonds	3		
Subsidiaries, Balance	4		
Current Assets	5,156	Current Liabilities	194
Investments	55	Preferred Stock	513
Deferred Charges	136	Common Stock	762
Outside Real Estate	68	Surplus	3,965
Treasury Stock	19		
Total	5,434	Total	5,434

149. FAIRFAX NATIONAL BANK¹

PREVENTION OF BANK FAILURE. The clearing-house banks in a city decided that one of the member banks and its subsidiary were in such a weakened condition that they no longer should continue operations. Receivership for these banks might cause industrial and financial failures in the city. The clearing-house banks, therefore, recommended that some strong member bank should take over the weakened institutions.

TERMS OF BANK MERGER. The Fairfax National Bank was requested to bid for the purchase of the weak banks. The officers of the bank had to choose between bidding for the deposits or the assets of the weak banks. Because the deposit liabilities had to be met in either case and because the assets were of doubtful realizable value, the Fairfax National Bank decided to base its bid on the value of the deposits of the weak banks.

(1922)

On December 31, 1921, an organization of clearing-house banks in a western city decided that the weakened condition of one member, the Milton National Bank, and of its allied bank, the Milton State Bank, did not justify continuance of operations by either institution. It was apparent that unwise investments and the condition of a portion of the loans provided insufficient security for the liability of the two banks to their depositors. Since to force the Milton banks into receivership probably would have caused failures of other financial and industrial companies in the city, the clearing-house banks recommended the assumption of deposit liabilities and the gradual liquidation of assets by one of the member banks. The amount of the deposit liabilities, however, limited the possible purchasers to two banks, the Fairfax National Bank and the Bradshaw National Bank.

Of the banks in the city, the Fairfax National Bank had the largest resources, valued at \$326,000,000. It had 3,500 correspondent banks located throughout the United States. The Bradshaw National Bank was second in value of assets. The difference in the resources of these two banks was greater than the total resources of the Milton National Bank and the Milton State Bank. The clearing-house banks requested that the two leading banks submit bids for the deposits of the banks which were to be closed. Representatives of the clearing-house banks announced that a guaranty of \$2,500,000 was to be placed at

¹Fictitious name used for purpose of disguise.

MILTON NATIONAL BANK

Statement of Condition at the Close of Business, December 31, 1921

RESOURCES

Loans	\$46,667,742.81
Loans, Foreign Department.....	221,903.57
Overdrafts	87,454.37
Stock of Federal Reserve Bank.....	210,000.00
U. S. Bonds.....	88,160.00
U. S. Certificates of Indebtedness.....	5,000.00
Bonds to Secure Postal Savings Deposits.....	170,647.50
Other Bonds and Securities	3,168,008.15
Other Bonds to Secure War Loan Deposit.....	430,785.80
Other Bonds and Securities to Federal Reserve Bank as Excess Security for Loans	25,000.00
Cash and Accounts Receivable Due from Building..	110,702.22
Interest Accrued and Paid in Advance	171,742.52
Transit Account—General	1,646,704.74
Banking House	3,000,000.00
Transit—Reserve	2,889,204.49
Transit—B/L	514,969.88
Transit—Duplicate	1,388.06
Transit—Federal Reserve Collection Account.....	11,759.04
Due from Banks.....	1,366,815.36
Cash Coupons	34,746.96
Cash Account	3,609,564.34
Due from Federal Reserve Bank.....	5,323,697.40
Revenue Stamps	1,098.82
Due from Foreign Banks.....	104,176.66
Customers' Liability a/c Acceptances.....	600,371.90
Customers' Liability a/c Letters of Credit and Travelers' Checks	655,171.22
	<u>\$71,116,815.81</u>

the disposal of the bank which purchased the two Milton institutions. There was an unconditional guaranty to meet any deficit between the value of the assets and the deposit liabilities up to the pledged amount. It was announced, also, that a group of stockholders of the impoverished banks previously had guaranteed \$1,000,000 for this purpose, in addition to their legal double liability.

To protect the Milton banks' depositors, a merger or sale had to be effected before banking hours the morning of January 3. The Bradshaw National Bank was certain to bid for the deposits

MILTON NATIONAL BANK

Statement of Condition at the Close of Business, December 31, 1921

LIABILITIES

Capital	\$ 5,000,000.00
Surplus	2,000,000.00
Profit and Loss	394,418.66
Interest Collected but Not Earned	317,735.17
Depreciation on Canadian Exchange	218.74
Protest Fees	30.47
Telegrams	600.30
Rediscounts	13,283,460.94
Reserved for Taxes and Ground Rent, Insurance and Banking House	100,000.00
Milton Building Account	114,837.34
Dividends	100,082.00
Reserved for Taxes	135,364.26
Guaranty Account	88,561.28
Cashier's Checks	35,407.35
Cashier's Checks, Expense	267.50
Cashier's Checks, Foreign	11,101.63
Certificates of Deposit—Time	253,164.98
Certificates of Deposit—Demand	75,559.05
Certified Checks	322,898.06
Local Drafts	205,087.78
Local Drafts, Special	683,362.67
Margins	118,500.00
Inactive	47,588.05
Due to Banks	12,928,950.22
Due to Federal Reserve Bank, Fiscal Agent	311,454.36
Due to Individual Depositors	32,795,139.87
Pension Fund	3,334.52
Postal Savings Deposit	84,733.45
Sundries Account	28,784.06
Sundries, Foreign Department	268,552.18
Difference Account	3,572.00
Building Earnings and Reserves	110,702.22
Cash Letters of Credit and Travelers' Checks	29,228.63
Liability a/c Acceptances	608,946.85
Liability a/c Letters of Credit and Travelers' Checks	655,171.22
	<u>\$71,116,815.81</u>

of the weakened institutions. If successful in its bid, the Bradshaw National Bank would strengthen its competitive position substantially.

The Fairfax National Bank had been built up through a succession of mergers but it never had purchased a weakened bank. Its reputation was of sufficiently long standing, however, to prevent any loss of prestige because of this purchase; hence, a decision to bid was a foregone conclusion. The officers of the Fairfax National Bank, therefore, met on January 1, 1922, to discuss the advisability of assuming the deposit liabilities of the two banks.

Determination upon the type of bid was the principal topic for discussion. Two proposals were made: one, to purchase the assets of the banks; the other, to purchase the deposits. It was known that during the preceding week the Bradshaw National Bank had examined the assets of the Milton institutions for evaluation purposes. In the short time allowed for a decision and for the formulation of a bid, such an appraisal was impossible for the Fairfax National Bank. The latter, however, could make an accurate estimate of the value of the assets. The resources of the Milton National Bank, which was the more important of the Milton organizations, were \$71,000,000. It

MILTON STATE BANK

Statement at Close of Business, December 31, 1921

RESOURCES	
Time Loans	\$ 2,650,852.08
Demand Loans	2,649,818.18
Loans on Real Estate	1,045,537.21
Real Estate Bonds	1,376,321.20
Bonds and Securities	2,365,877.06
Other Real Estate	16,016.56
Overdrafts	171.44
Milton National Bank	379,592.84
Bickerstaff National Bank	110,545.06
Morley Trust Company	100,931.30
Cash on Hand	136,564.51
Checks for Clearance	95,912.39
Cash Items	32,321.14
Items in Transit	18,796.03
Demand Interest Account	9,802.61
Internal Revenue Stamps	100.00
War Saving Thrift Stamps	418.90
	<u>\$10,989,578.51</u>

had a substantial number of desirable commercial customers and, in addition, 1,500 correspondent banks located in five states. There was little doubt that the purchasing bank could retain most of these accounts. The statement of the condition of the Milton National Bank, at the close of business December 31, 1921, was available.

The Fairfax National Bank building also housed the Fairfax State Bank. Both banks were controlled by the same management, but retained separate identities because the state bank, by state law, could transact banking business not allowed under the charter of the Fairfax National Bank. The Milton State Bank and the Fairfax State Bank were similar in organization. Each had a savings department, which accepted time deposits; a commercial department, which granted small secured loans; a

MILTON STATE BANK

Statement at Close of Business, December 31, 1921

LIABILITIES	
Capital	\$ 500,000.00
Surplus	250,000.00
Undivided Profits	273,868.31
Contingent Fund	50,000.00
Reserved for Interest and Taxes	72,431.31
Deposits, Individual	705,625.31
Deposits, Savings	7,447,240.80
Deposits, Savings Club	2,289.00
Deposits, Time Certificates	559,815.31
Deposits, Banks and Bankers	5,957.59
Deposits, City	75,000.00
Deposits, Trust Company	456,456.64
Deposits, Trust Department Special	66,851.49
Deposits, Bond Department	374,918.24
Deposits, R/E Loan Department	75,190.42
Cashier's Checks	40,066.30
Certified Checks	1,457.35
Expense Checks	6,228.45
Unclaimed Balances	472.81
Milton State Pension Fund	655.71
Suspense Account	4,928.11
Savings Plus Insurance Receipts	125.36
Dividends Unpaid	20,000.00
	<u>\$10,989,578.51</u>

trust department, which acted as trustee for estates and corporations; and a bond department, which bought and sold investment securities. The savings department of the Milton State Bank constituted the major division of the business. The resources of the Fairfax State Bank were \$77,500,000; those of the Milton

FAIRFAX NATIONAL BANK

Daily Statement of Condition at the Close of Business, Saturday,
December 31, 1921

RESOURCES		
Loans		
Bills Discounted	\$133,787,601.08	
Demand Loans	78,943,185.63	
Bonds, Securities, etc.	22,202,802.22	\$234,933,588.93
Due from Banks		
New York	\$ 8,169,686.38	
Other Banks	24,561,123.00	
Cash	18,196,540.06	
Balance Federal Reserve Bank	31,104,911.86	
Due from U. S. Treasury	2,500.00	82,034,761.30
Foreign		880,791.26
U. S. Bonds		6,476,250.61
Real Estate		32,945.00
Securities Bought under Agree- ment to Repurchase		1,957,772.27
Total		\$326,316,109.37
LIABILITIES		
Capital Stock		\$ 25,000,000.00
Surplus		15,000,000.00
Profit and Loss Account		1,744,450.91
Undivided Profits	\$ 4,088,407.62	
Less Expense and Taxes Paid. .	2,304,682.79	1,783,724.83
Bills Payable	0.	
Rediscounts		0.
Circulation		50,000.00
Deposits—		
Individual	\$164,216,008.95	
Banks	118,521,924.68	282,737,933.63
Total		\$326,316,109.37

State Bank were \$11,000,000. In the latter institution, almost \$10,000,000 of these resources represented saving deposit liabilities to 38,000 customers. The interest rate on savings deposits

FAIRFAX NATIONAL BANK

Daily Statement of Condition at the Opening of Business,
January 3, 1922*

RESOURCES		
Loans		
Bills Discounted	\$180,455,343.89	
Demand Loans	78,943,185.63	
Bonds, Securities, etc.....	28,752,552.89	\$288,151,082.41
Due from Banks		
New York	\$ 9,038,658.80	
Other Banks	30,157,739.11	
Cash	21,157,739.11	
Balance Federal Reserve Bank	36,428,609.26	
Due from U. S. Treasury.....	2,500.00	97,429,645.27
Foreign		905,580.85
U. S. Bonds		7,195,843.91
Real Estate		32,945.00
Securities Bought under Agree- ment to Repurchase.....		1,957,772.27
Total		\$395,672,869.71
LIABILITIES		
Capital Stock		\$ 25,000,000.00
Surplus		15,000,000.00
Profit and Loss Account		3,528,175.74
Undivided Profits		0.
Less Expenses and Taxes Paid		
Bills Payable	0.	
Rediscounts	\$ 13,283,460.94	13,283,460.94
Circulation		50,000.00
Deposits		
Individual	\$199,345,094.79	
Banks	131,753,134.90	
Milton Stockholders	7,713,003.34	338,811,233.03
Total		\$395,672,869.71

*In 1922, January 1 fell on Sunday; Monday, January 2, was a legal holiday.

was the same in both banks. Details of the Milton State Bank's condition were obtainable from its statement at the close of business, December 31, 1921.

Since liquidation of the loans to industrial and agricultural borrowers of the Milton banks would cause failures, the clearing-house banks expected the bank which assumed the deposit liabilities of the Milton banks to follow a lenient renewal policy. Such procedure also was necessary to permit the purchasing bank to realize the maximum from the Milton assets. This meant that the assumption of deposit liabilities would entail prolonged liquidation. The clearing-house banks had agreed not to compete for these depositors with the institution which relieved the situation.

The difficulties of the Milton banks were attributed in part to inadequate collateral for their secured loans. The collateral, moreover, was insufficiently diversified and, in instances, of little-known corporations; consequently, it was difficult to market. In particular, the officers of the Milton banks had sponsored and invested in new industrial companies which in December, 1921,

FAIRFAX STATE BANK

Statement of Condition at the Close of Business, December 31, 1921

RESOURCES		
Time Loans		\$16,378,702.79
Demand Loans	\$13,808,689.87	
Bonds and Securities	16,166,940.39	
Due from Banks	29,478,595.08	
Cash	<u>1,598,755.41</u>	
Demand Resources		<u>61,052,980.75</u>
Total		<u>\$77,431,683.54</u>
LIABILITIES		
Capital	\$ 5,000,000.00	
Surplus	5,000,000.00	
Undivided Profits	2,400,010.50	
Unearned Interest	82,717.31	
Reserved for (Taxes, Interest, and Dividends)	<u>1,311,177.75</u>	\$13,793,905.56
Demand Deposits	\$20,647,531.72	
Time Deposits	42,990,246.26	63,637,777.98
Total		<u>\$77,431,683.54</u>

were in financial difficulties. Securities of these companies had been sold to customers of the Milton banks, and those customers had offered the securities as collateral. It was doubtful whether the assets of the Milton banks were sufficient eventually to equal the deposit liabilities.

In view of the condition of the assets of the Milton banks and the limited time in which to form a bid, the directors of the Fairfax National Bank decided to bid for the deposits rather than to base their offer on an estimation of the value of the assets. The Fairfax banks were to assume immediate liability for the deposits and to pay a commission of 3% for all commercial deposits, computed on the basis of the average deposits during the last three months of 1922. Five per cent of all savings deposits was to be paid on the average deposits of the last five months of 1922. All the assets of the two Milton banks were eventually to be liquidated in order to provide payment to the Fairfax banks for their assumption of the deposit liability. The cash on hand and the amounts due from banks were to be

FAIRFAX STATE BANK

Statement of Condition at the Close of Business, January 3, 1922

RESOURCES	
Time Loans	\$21,428,493.72
Demand Loans .....\$16,435,330.13	
Bonds and Securities..... 19,609,324.00	
Due from Banks 28,453,210.34	
Cash 3,819,680.33	
Demand Resources	68,317,544.80
Total	\$89,746,038.52
LIABILITIES	
Capital	\$ 5,000,000.00
Surplus	5,000,000.00
Stockholders Account Milton.....	1,084,631.42
Undivided Profits	2,425,905.84
Unearned Interest	82,850.17
Reserved for (Taxes, Interest, and Dividends)	1,209,029.06
Demand Deposits .....\$24,383,224.87	\$14,802,416.49
Time Deposits 50,560,397.16	74,943,622.03
Total	\$89,746,038.52

applied immediately as partial payment. All liquidation procedure and payments to Milton stockholders were to be carried out by the Milton banks under the absolute control and administration of the Fairfax banks. As soon as the assets of the Milton banks were liquidated and the loans paid, their charters were to be given up; this would complete the amalgamation of the Milton and Fairfax institutions. Income from the investments and loans before the liquidation was to be credited to the Milton banks.

The Fairfax National Bank was successful in its bid. The 400 employees and officers of the Milton banks were transferred to the Fairfax banks to transact the increased business of the Fairfax institutions. There was no obligation, however, to retain any of the employees so transferred. Banking operations from the morning of January 3 were conducted solely from the Fairfax National Bank Building. The effects of the merger upon the resources and liabilities of the Fairfax National Bank and of the Fairfax State Bank were shown in the statements of condition of those banks as of December 31, 1921, and as of January 3, 1922.

In his annual report to the stockholders of the Fairfax National Bank, dated December 31, 1923, the chairman of the board of directors stated: "The liquidation of the Milton banks has progressed so well that the Fairfax banks have been paid in full for the liabilities of the Milton banks, amounting to approximately \$74,000,000, which we assumed when we took over this business. On January 3, 1924, the guaranty fund put up by the clearing-house banks will be returned to them with interest, and our contract then will have been completed most successfully. The Milton banks will still have considerable assets which, when liquidated, will ensure a substantial return to their stockholders."

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